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IDENTIFIERS	*Workplace Literacy

ABSTRACT

This curriculum guide was developed and updated for a 2-year project conducted to improve the productivity of the work force through improvement of literacy skills in the workplace by providing instruction to employees in the printing industry in the Baltimore (Maryland) metropolitan area; Carroll County and Charles County, Maryland; and York, Pennsylvania. The curriculum guide contains sections on reading, mathematics, writing, critical thinking, and communications. Each section contains numerous learning activities, mostly related to the printing industry. Answer keys are provided for the problems. Some sections include competencies and objectives. (KC)

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ED 384 781

Skills
TODAY
for
TOMORROW
Catonsville Community College & PIM&SP
A Partnership For The Future.

BASIC SKILLS CURRICULUM

FOR THE

GRAPHIC ARTS INDUSTRY

ADDITIONAL ACTIVITIES

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

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CE069468

DEVELOPED BY:
CATONSVILLE COMMUNITY COLLEGE
BALTIMORE, MARYLAND

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CRABCAKE PRESS
SERVICES-WAREHOUSING AND TRUCKING RATES

COMPETENCY: Read and interpret non-prose materials. (7)

OBJECTIVE: Use charts to obtain information.

DIRECTIONS: Use the attached Services Warehousing and Trucking Chart to answer the following questions.

1. How many rate classes are on the chart? What are they based on?
2. How are the prices per CWT arranged?
3. How much does it cost per CWT to ship 1500 forms to Springfield, VA?
4. When would you call the shipping company to obtain a discount?
5. How full does a trailer have to be before a discount is applied?
6. What is the difference between the price per CWT to ship 5,678 forms to Fairfax, VA and to ship the same number of forms to Herndon, VA?
7. How long has it been since these prices have been in effect?
8. Is it cheaper to ship to Baltimore, MD or to Annapolis, MD? Why?
9. How is the chart arranged as far as the order of prices and distances?
10. What is the difference between the minimum shipping rate between Abingdon, MD and Annapolis, MD?
11. What is the least expensive price per carton weight?
12. What is the most expensive price per carton weight?
13. Are the intervals on the pricing chart the same?

14. What is the maximum charge for stacking cartons on shelves?

15. The minimum rate of $21.50 applies to how many locations?

16. The minimum rate of $26.50 applies to how many locations?

17. The minimum rate of $45.00 applies to how many locations?

18. Are there any cities in Maryland where the minimum shipping rate is over $26.50?

19. What would it cost to ship 5 cartons of 2500 forms to Fairfax, VA?

20. What would it cost to ship 9 cartons of 2000 forms to Manassas, VA?

21. What would it cost to ship 4 cartons of 500 forms to Baltimore, MD and 3 cartons of 350 forms to Washington, D.C.?

22. What would it cost to ship 6 cartons of 1200 forms to Herndon, VA and 5 cartons of 800 forms to Woodbridge, VA?

CRABCAKE PRESS
SERVICES-WAREHOUSING AND TRUCKING RATES

VIRGINIA/MARYLAND/DC (WITHIN 200 MILES OF CRABCAKE PRESS)

Rates to Baltimore, Washington,D.C., Prince Georges County, Montgomery County and Northern Virginia locations: Falls Church, Fairfax, Springfield, Arlington, Alexandria, McLean, and Vienna.

0-499	$3.75 CWT
500-999	3.45 CWT
1M-1999	2.46 CWT
2M-4999	2.24 CWT
5M-9999	1.76 CWT
OVER 10 M	1.48 CWT
OVER 24 M	1.25 CWT

MIN: $21.50

VIRGINIA AND MARYLAND (200-300 MILES OF CRABCAKE PRESS)

Rates to Sterling, Centreville, Herndon, Reston, and Chantilly, VA, and Annapolis and Frederick, MD.

0-499	$4.26 CWT
500-999	3.93 CWT
1M-1999	3.09 CWT
2M-4999	2.80 CWT
5M-9999	2.08 CWT
OVER 10 M	1.73 CWT
OVER 24 M	1.43 CWT

MIN: $26.50

VIRGINIA AND MARYLAND (300-400 MILES OF CRABCAKE PRESS)

Rates to Woodbridge and Manassas, VA and Abingdon, MD

0-499	$5.11 CWT
500-999	4.70 CWT
1M-1999	3.71 CWT
2M-4999	3.36 CWT
5M-9999	2.50 CWT
OVER 10 M	2.07 CWT
OVER 20 M	1.71 CWT

MIN: $45.00

Stack on shelves-$1.45 CWT-$150 Maximum.
24 pallets = 1 trailer load; Over 12 pallets-Call for discount.
EFFECTIVE NOVEMBER 1, 1992

CRABCAKE PRESS
SERVICES-WAREHOUSING AND TRUCKING RATES
ANSWER KEY

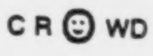
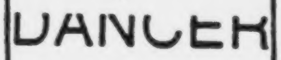
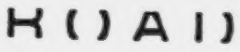
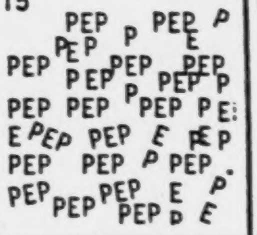
1. There are three rate classes based on distance from Crabcake Press.
2. Prices are arranged from most expensive to least expensive.
3. $2.46
4. Call for a discount when you have over 12 pallets to ship.
5. A discount is applied when a trailer is at least 1/2 full.
6. $.32
7. Since November 1, 1992
8. It is cheaper to ship to Baltimore because Crabcake Press is closer to Baltimore.
9. Prices increase as distance increases.
10. $18.50
11. $1.25
12. $5.11
13. No, there are intervals of 500,1 M, 3 M, 5 M, and 14 M forms.
14. $150
15. 11 locations
16. 7 locations
17. 3 locations
18. Yes, Abingdon, MD
19. $11.20
20. $30.24
21. $25.05
22. $42.04

READING AND REASONING

COMPETENCY: Reading and reasoning.

OBJECTIVE: To determine a common phrase.

DIRECTIONS: Analyze each block and determine a saying or a well-known phrase.

1	2	3	4
POCHICKENT POCHICKENT POCHICKENT POCHICKENT	ECAP PACE	GUN, JR. .	PARKED/PARKED
5	**6**	**7**	**8**
CHECK CHECK CHECK	HEAVENS - PENNIES	COUNTRY COUNTRY	 C R ☺ WD
9	**10**	**11**	**12**
	FISHING C	B A E DUMR	TAKE 1 MEAL TAKE 1 MEAL TAKE 1 MEAL TAKE 1 MEAL
13	**14**	**15**	**16**
VIOLETS			agb

① Chicken in every Pot
② Pace Back & Forth
③ Son of a Gun
④ Double Parked
⑤ Check & Double Check
⑥ Pennies from Heaven

⑦ Cross country
⑧ Face in a crowd
⑨ Topless Dancer
⑩ Deep Sea Fishing
⑪ Bermuda Triangle
⑫ Take 1 before every meal
⑬ Shrinking Violets
⑭ Middle of the Road
⑮ Full of Pep
⑯ Mixed bag

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READING AND REASONING

COMPETENCY: Reading and reasoning.

OBJECTIVE: To determine a common phrase.

DIRECTIONS: Analyze each block and determine a saying or a well-known phrase.

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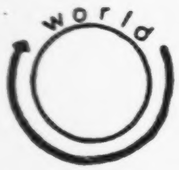
1 PLOT	2 WAY $\overline{\text{PASS}}$	3 A CHANCE N	4 NOITANIMIRCSID
5 GONE GONE LET BE GONE GONE	6 GETTING IT ALL	7 LU CKY	8 PRE4SS
9 $\frac{\text{ME}}{\text{IT IT IT IT IT IT IT}}$	10 	11 [illegible]	12 WHEATHER
13 GET A WORD IN	14 O MD BA PhD	15 late never	16 ALL / WORLD

1. The plotthickens
2. Highway overpass
3. an outside chance
4 reverse discrimination
5 Let bygones be bygones
6 Getting away from it all
7 Lucky ~~[illegible]~~ SPLIT
8 Foreign Press
9 Its below me
10 as the world turns
11. chicken little
12 Bad spell of weather..
13 Get a word in edgwise
14. 3 degrees below zero
15 Better late than never
16. It's a small world afterall

MAP READING & MEASUREMENT

COMPETENCY: Solve problems in map reading & measurement.

OBJECTIVES: To read a map and make measurements using the scale on a map.

DIRECTIONS: Locate certain points on a map of Maryland and compute some distances between two points.

1. How far is it approximately in miles from the eastern edge of Cecil County to western edge of Garrett County?

2. Draw a straight line from Washington D.C. to the southern tip Somerset County - how far is it in miles?

3. If you traveled from Worchester County to Baltimore City, what counties would you pass through?

4. What counties make up what is referred to as the Eastern Shore?

5. Ocean City, Maryland is in what county?

6. How many counties are there in Maryland, including Baltimore City?

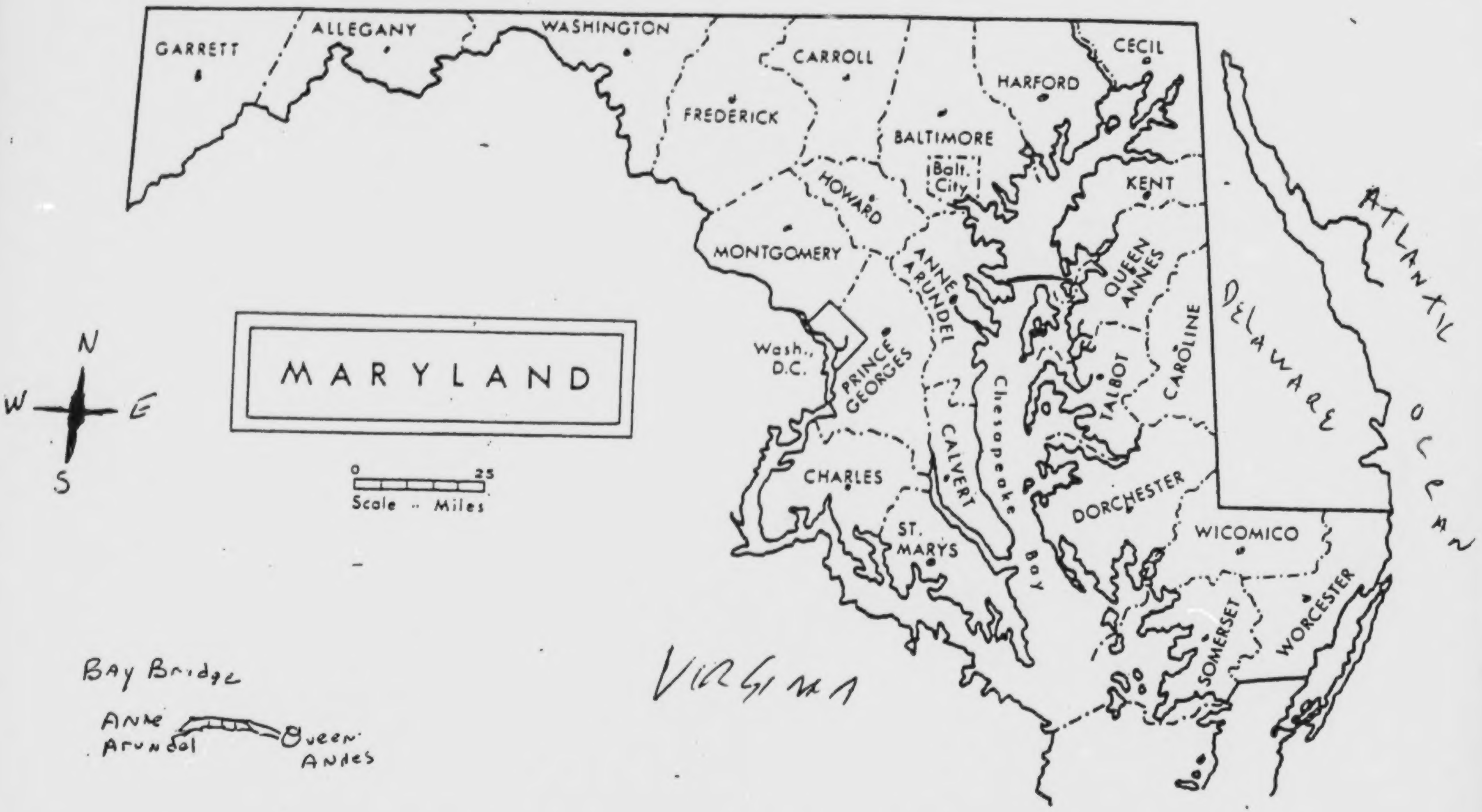
7. Which counties border Washington D.C.?

8. Name the counties that touch the Chesapeake Bay.

9. Which county touches six other Maryland counties?

10. How far is it approximately from Baltimore City to the tip of St. Marys county?

wp51/map1


MARYLAND
GARRETT
ALLEGANY
WASHINGTON
CARROLL
HARFORD
CECIL
FREDERICK
BALTIMORE
Balt. City
KENT
HOWARD
MONTGOMERY
ANNE ARUNDEL
QUEEN ANNES
Wash., D.C.
PRINCE GEORGES
TALBOT
CAROLINE
CALVERT
Chesapeake Bay
CHARLES
ST. MARYS
DORCHESTER
WICOMICO
SOMERSET
WORCESTER
DELAWARE
ATLANTIC OCEAN
VIRGINIA
N
S
E
W
0
25
Scale -- Miles
Bay Bridge
Anne Arundel
Queen Annes

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MAP READING & MEASUREMENT

COMPETENCY: Solve problems in map reading & measurement.

OBJECTIVES: To read a map and make measurements using the scale on a map.

DIRECTIONS: Locate certain points on a map of Maryland and compute some distances between two points.

1. How far is it approximately in miles from the eastern edge of Cecil County to western edge of Garrett County? 200 MILES

2. Draw a straight line from Washington D.C. to the southern tip Somerset County - how far is it in miles? 100 MILES

3. If you traveléd from Worchester County to Baltimore City, what counties would you pass through?
WICOMICO, DORCHESTER, TALBOT, QUEEN ANNES,
ANNE ARUNDEL, KENT

4. What counties make up what is referred to as the Eastern Shore?
KENT, QUEEN ANNES, TALBOT, CAROLINE, DORCHESTER,
WICOMICO, SOMERSET, WORCESTER

5. Ocean City, Maryland is in what county? WORCESTER

6. How many counties are there in Maryland, including Baltimore City? 24

7. Which counties border Washington D.C.? PRINCE GEORGES,
MONTGOMERY

8. Name the counties that touch the Chesapeake Bay. ST MARY'S,
CALVERT, ANNE ARUNDEL, CITY, BALT COUNTY, HARFORD,
CECIL, KENT, QUEEN ANNES, TALBOT, DORCHESTER, WICOMICO,
SOMERSET

9. Which county touches six other Maryland counties? HOWARD

10. How far is it approximately from Baltimore City to the tip of St. Marys county?
100 MILES

wp51/map1

MAP READING & MEASUREMENT

COMPETENCY: Solve problems using a map of Maryland

OBJECTIVES: Use a map legend to solve distance problems on a map

DIRECTIONS: Solve the following problems using the attached map and its mileage legend

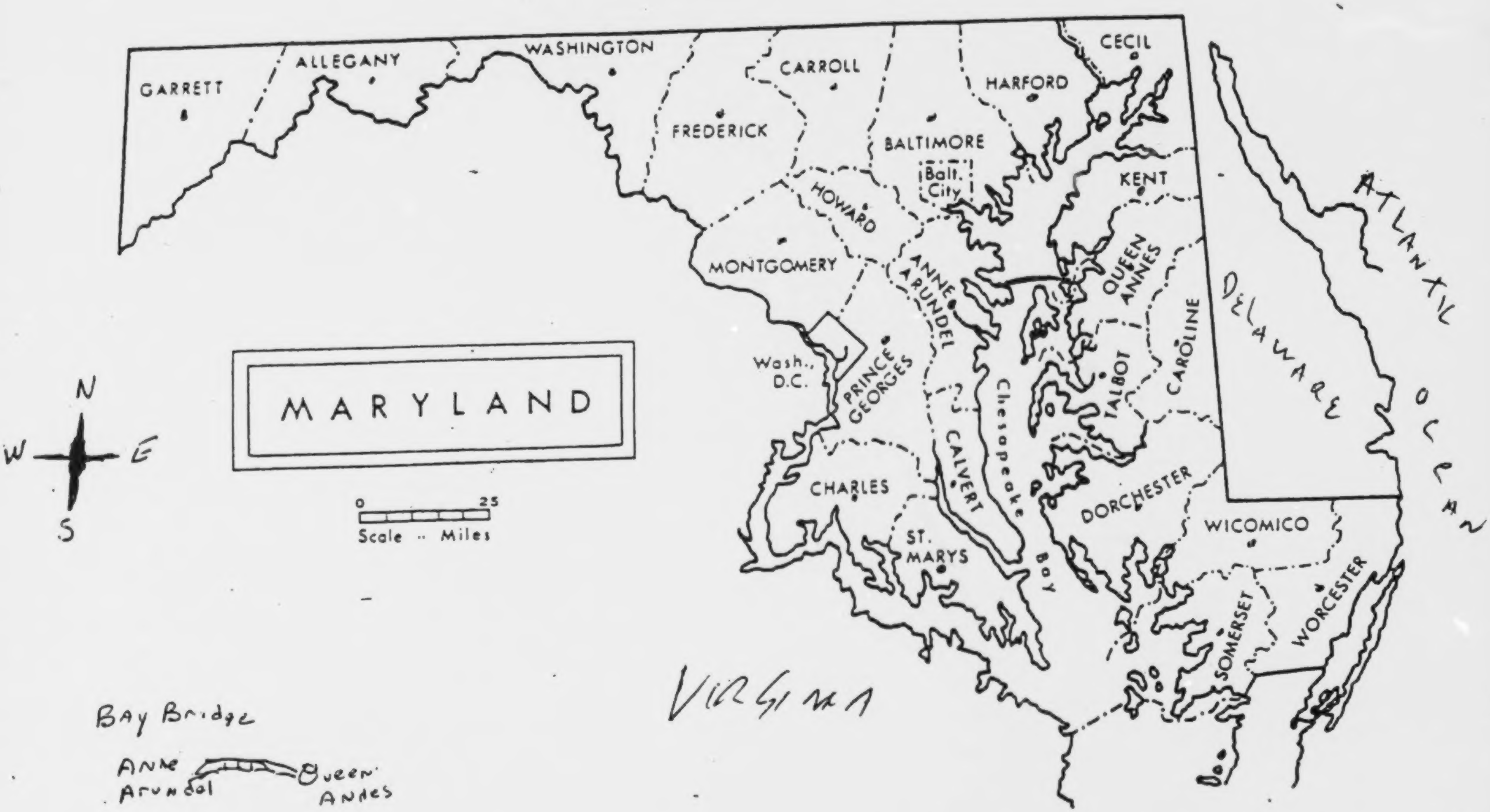
1. Find the distance between the below listed counties using the scale on the attached map.

FROM	TO	MILES
GARRETT	BALTIMORE CITY	.....
DORCHESTER	CARROLL	.....
GARRETT	BALTIMORE COUNTY	.....
SOMERSET	WASHINGTON D.C.	.....
ST. MARY'S	KENT	.....
TALBOT	WASHINGTON COUNTY	.....
CALVERT	FREDERICK	.....

2. If you traveled 83 miles east/southeast from Allegany county, what county would you be in?

3. Mr. Brown traveled 130 miles southeast from Baltimore City to meet his boss. What county did he finally arrive at?

wp51/map2


MARYLAND
GARRETT
ALLEGANY
WASHINGTON
CARROLL
CECIL
HARFORD
FREDERICK
BALTIMORE
Balt. City
KENT
HOWARD
MONTGOMERY
ANNE ARUNDEL
QUEEN ANNES
CAROLINE
TALBOT
Wash., D.C.
PRINCE GEORGES
CALVERT
Chesapeake Bay
CHARLES
ST. MARYS
DORCHESTER
WICOMICO
SOMERSET
WORCESTER
DELAWARE
ATLANTIC OCEAN
VIRGINIA
N
S
W
E
0
25
Scale -- Miles
Bay Bridge
Anne Arundel
Queen Annes

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MAP READING & MEASUREMENT

COMPETENCY: Solve problems using a map of Maryland

OBJECTIVES: Use a map legend to solve distance problems on a map

DIRECTIONS: Solve the following problems using the attached map and its mileage legend

1. Find the distance between the below listed counties using the scale on the attached map.

FROM	TO	MILES
GARRETT	BALTIMORE CITY	175
DORCHESTER	CARROLL	150
GARRETT	BALTIMORE COUNTY	125
SOMERSET	WASHINGTON D.C.	100
ST. MARY'S	KENT	106
TALBOT	WASHINGTON COUNTY	150
CALVERT	FREDERICK	75

2. If you traveled 83 miles east/southeast from Allegany county, what county would you be in? MONTGOMERY or Howard

3. Mr. Brown traveled 130 miles southeast from Baltimore City to meet his boss. What county did he finally arrive at?
SOMERSET

wp51/map2

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CIRCULATION GRAPH

Competency:	To solve problems using graphs and charts
Objective:	To interpret data from a graph
Directions:	Use the attached graph to answer the following questions.

1. What is the title of this graph?

2. What information does the graph provide?

3. Which line on the graph represents 1993?

4. Name the month and year of the highest average paid circulation.

5. Did circulation continue to increase in the months following this peak? What happened?

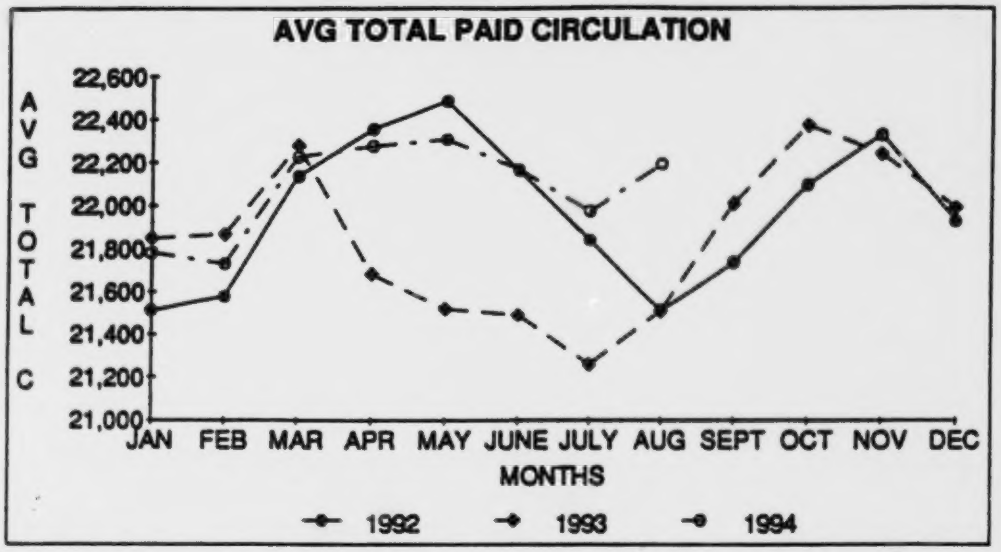
6. In what month was circulation the same in 1992 and 1994?

Circulation Graph

Page 2

7. Based on the two previous years, what would you predict for circulation for the rest of 1994?

8. See the table of numbers under the graph. How does it relate to the graph?



This chart represents average paid circulation for 1992, 1993 , and 1994, in Carroll County and outside Carroll County.

	1992	1993	1994
JAN	21,512	21,849	21,781
FEB	21,580	21,869	21,730
MAR	22,140	22,281	22,230
APR	22,358	21,684	22,279
MAY	22,484	21,520	22,307
JUNE	22,165	21,490	22,169
JULY	21,840	21,257	21,974
AUG	21,512	21,510	22,196
SEPT	21,735	22,011	
OCT	22,097	22,372	
NOV	22,333	22,242	
DEC	21,929	21,991	

CIRCULATION GRAPH
ANSWER KEY

Competency: To solve problems using graphs and charts

Objective: To interpret data from a graph

Directions: Use the attached graph to answer the following questions.

I. What is the title of this graph?

Ans: Average Total Paid Circulation

2. What information does the graph provide?

Ans: the average total paid circulation for the 12 months of 1992 and 1993, and the first 8 months of 1994.

3. Which line on the graph represents 1993?

Ans: --◆

4. Name the month and year of the highest average paid circulation.

Ans: May, 1992

5. Did circulation continue to increase in the months following this peak? What happened?

Ans: No, circulation declined for the next three months.

6. In what month was circulation the same in 1992 and 1994?

Ans: June

Circulation Graph

Page 2

7. Based on the two previous years, what would you predict for circulation for the rest of 1994?

   Ans: Circulation will increase until October or November, and then decline in December.

8. See the table of numbers under the graph. How does it relate to the graph?

   Ans: The graph gives a picture of the numbers and compares three years' performance.

FACTS ABOUT NEWSPAPER ADS

Competency:	Read workplace materials to locate information
Objective:	To read and interpret facts about newspaper ads
Directions:	Read the following facts about newspaper ads, and answer the questions that follow.

- Sixty-five percent of shoppers say newspapers are more important to them as an advertising medium than television, according to the Newspaper Advertising Bureau.
- Eighty-seven percent of U.S. food shoppers said they recalled seeing supermarket or food advertising in a newspaper within the previous week.
- Fifty-six percent of newspaper readers say they clipped cents-off coupons from the newspaper in the previous three months.
- Advertising expenditures in daily newspapers account for more than $32 billion annually, $5 billion more than all television services combined.
- According to a survey conducted by the Newspaper Advertising Bureau, three out of four people preferred color ads. The younger the reader, the more likely they want color. Among 18 to 24-year olds, 90 percent prefer color.
- Eighty-three percent of recent home buyers used real estate classified ads while shopping for their new homes.
- Seventy-five percent of all college graduates are daily newspaper readers.
- Four out of five people will read only your headline. Put your message in your headline. Avoid using headlines that say nothing. Promise a benefit that gives the reader a reason to read the copy.
- The average reader spends more than an hour with the Sunday newspaper and 45 minutes with the daily newspaper.

1. What percent of college graduates read the newspaper daily?

Facts about Newspaper Ads
Page 2

2. How much time does the average reader spend on reading the daily newspaper?

3. How much more is spent on daily newspaper advertising than on television services?

4. What percent of recent home buyers used real estate classified ads while shopping for their homes?

5. What do 65% of shoppers say is more important to them as an advertising medium than television?

6. Among 18 to 24 year olds, what do 90% prefer in advertising?

7. From reading these facts, do you feel that newspaper advertising is a popular form of reaching potential buyers? Why?

8. What two facts would encourage a supermarket to advertise?

FACTS ABOUT NEWSPAPER ADS

ANSWER KEY

Competency: Read workplace materials to locate information

Objective: To read and interpret facts about newspaper ads

Directions: Read the following facts about newspaper ads, and answer the questions that follow.

- Sixty-five percent of shoppers say newspapers are more important to them as an advertising medium than television, according to the Newspaper Advertising Bureau.
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- Seventy-five percent of all college graduates are daily newspaper readers.
- Four out of five people will read only your headline. Put your message in your headline. Avoid using headlines that say nothing. Promise a benefit that gives the reader a reason to read the copy.
- The average reader spends more than an hour with the Sunday newspaper and 45 minutes with the daily newspaper.

Facts about Newspaper Ads
Answer Key
Page 2

1. What percent of college graduates read the newspaper daily?

   Ans: 75%

2 How much time does the average reader spend on reading the daily newspaper?

   Ans: 45 minutes

3. How much more is spent on daily newspaper advertising than on television services?

   Ans: $5 billion

4. What percent of recent home buyers used real estate classified ads while shopping for their homes?

   Ans: 83%

5. What do 65% of shoppers say is more important to them as an advertising medium than television?

   Ans: newspapers

6. Among 18 to 24 year olds, what do 90% prefer in advertising?

   Ans: Color

7. From reading these facts, do you feel that newspaper advertising is a popular form of reaching potential buyers? Why?

   Ans: Yes, because more people who shop use newspaper ads and coupons.

8. What two facts would encourage a supermarket to advertise?

   Ans: #2 & 3

CENTAUR PRESS GRAPH

Competency: To solve problems using graphs and charts

Objective: To interpret data from a graph

Directions: Use the attached graph to answer these questions.

I. What is the title of this graph?

2. What information does the vertical axis provide? the horizontal axis?

3. What is the average number of jobs? How was this computed?

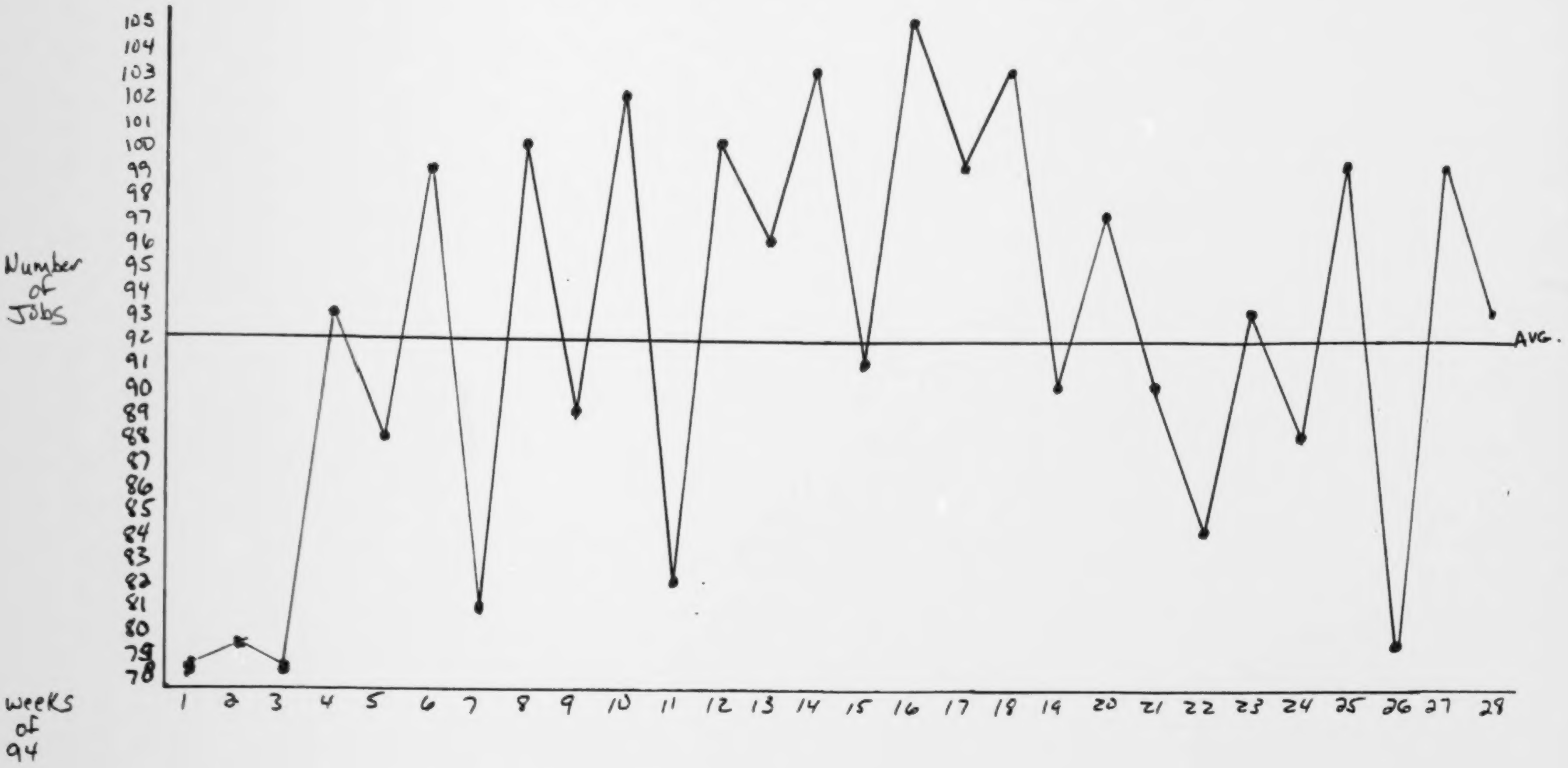
4. How many jobs were completed in week 7? week 25?

5. Which week had the highest number of jobs?

6. Which weeks had the fewest number of jobs?

7. If you were planning repairs to some of the presses, in which weeks would you schedule them? Why?

Number of Jobs per week of 94



Centaur Press
(Plant)

CENTAUR PRESS GRAPH
ANSWER KEY

Competency: To solve problems using graphs and charts

Objective: To interpret data from a graph

Directions: Use the attached graph to answer these questions.

I. What is the title of this graph?

Ans: Number of Jobs per Week of '94

2. What information does the vertical axis provide? the horizontal axis?

Ans: number of jobs; weeks of '94

3. What is the average number of jobs? How was this computed?

Ans: 92; Add the number of jobs of each week and divide by 28

4. How many jobs were completed in week 7? week 25?

Ans: 81; 99

5. Which week had the highest number of jobs?

Ans: Week 16

6. Which weeks had the fewest number of jobs?

Ans: Weeks 1 and 3

7. If you were planning repairs to some of the presses, in which weeks would you schedule them? Why?

Ans: Weeks 1-3; Presses are slowest during those weeks.

HARD STOP GRAPH

Competency:	To solve problems using graphs and charts
Objective:	To interpret data from a graph
Directions:	Use the attached graph to answer the following questions.

1. What is the title of this graph?

2. What information does the graph provide?

3. What do the black bars represent? the white?

4. So far, how does 1994 compare to 1993 in total hard stops?

5. Name the month and year with the most total hard stops. How many were there?

6. Name the month and year with the fewest hard stops. How many were there?

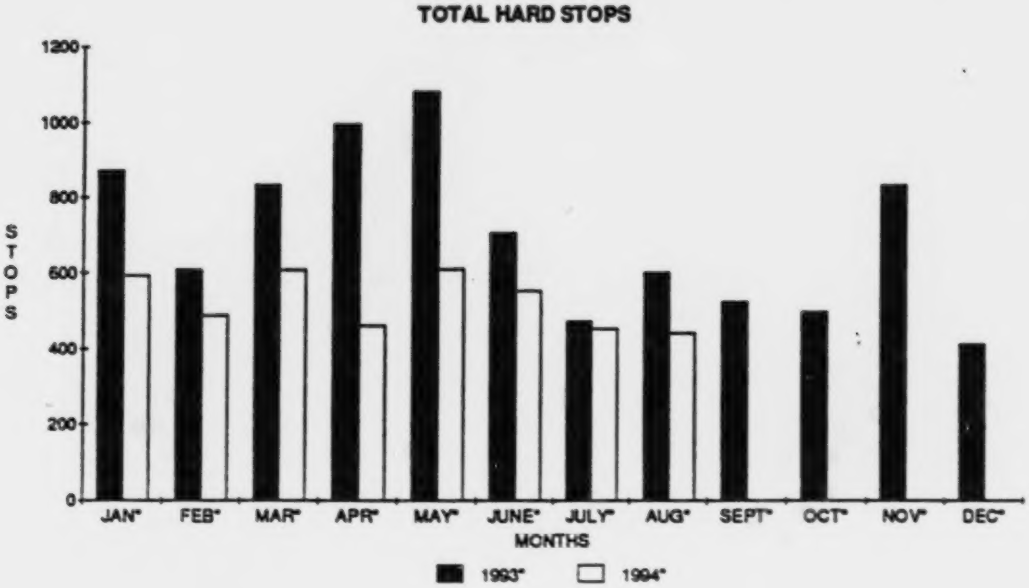
Hard Stop Graph

Page 2

7. Assume the following stops for the rest of 1994:

Sept.	321
Oct.	433
Nov.	756
Dec.	394

Draw the bars on the graph to show these numbers.



	1993"	1994"
JAN"	871	594
FEB"	608	490
MAR"	833	608
APR"	995	462
MAY"	1082	610
JUNE"	705	554
JULY"	473	453
AUG"	601	442
SEPT"	524	
OCT"	497	
NOV"	830	
DEC"	411	

HARD STOP GRAPH

ANSWER KEY

Competency: To solve problems using graphs and charts

Objective: To interpret data from a graph

Directions: Use the attached graph to answer the following questions.

1. What is the title of this graph?

   Ans: Total Hard Stops

2. What information does the graph provide?

   Ans: Total number of stops per month for twelve months in 1993 and eight months in 1994

3. What do the black bars represent? the white?

   Ans: 1993; 1994

4. So far, how does 1994 compare to 1993 in total hard stops?

   Ans: There are fewer.

5. Name the month and year with the most total hard stops. How many were there?

   Ans: May, 1993; 1082

6. Name the month and year with the fewest hard stops. How many were there?

   Ans: Dec., 1993; 411

Hard Stop Graph
Answer Key
Page 2

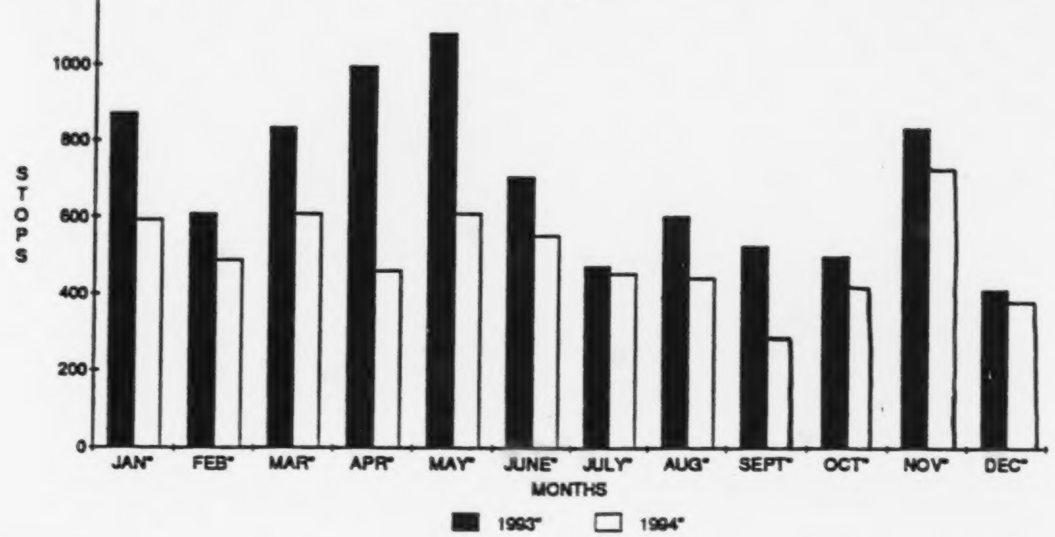
7. Assume the following stops for the rest of 1994:

Sept.	321
Oct.	433
Nov.	756
Dec.	394

Draw the bars on the graph to show these numbers.

TOTAL HARD STOPS

ANSWER KEY



	1993"	1994"
JAN"	871	594
FEB"	608	490
MAR"	833	608
APR"	995	462
MAY"	1082	610
JUNE"	705	554
JULY"	473	453
AUG"	601	442
SEPT"	524	321
OCT"	497	433
NOV"	830	756
DEC"	411	394

CRABCAKE PRESS 401(K) PLAN
INTERPRETING THE ACCOUNT STATEMENT

1. **Who owns this account?**

____

2. **How many investment choices does an individual have in this 401(k) plan?**

____

3. **How many times per year is this statement of account issued?**

____

4. **What is the total amount of the contributions made by this individual on the current statement? Over what time period were these investments made?**

____

____

5. **What is the average rate of savings for this individual per month during this time period? Do you think this rate of savings is typical for most Americans? Do you think this rate of savings is realistic for most people? Why or why not? What is an average amount of money that you might be able to save per month?**

____

____

____

____

____

6. In how many funds did the individual invest?

7. Which funds made money during this time period?

8. Which funds lost money during this time period?

9. On the whole, did the individual gain or lose money during this time period? How much? The money earned in a bank account is called interest. What are the terms for money earned in a fund?

10. In what new fund did the individual invest during this time period? Was it a wise investment? How do you know? (Hint: Consider the amount of time needed to evaluate data on a fund's performance.)

11. Are the investment choices an individual makes fixed? What is the advantage of this?

12. What do the percentages under investment election mean?

13. **Why is the investment election for the American Balanced Fund listed at 13% while the same dollar amount is listed at 14% for the Intermediate Bond Fund?**

14. **In what fund or funds did the individual invest the most? Was this a wise decision for this time period? Why or why not?**

15. **In what fund or funds did the individual invest the least? Was this a wise decision for this time period? Why or why not?**

16. **Why is the share price for the Cash Management Fund listed as 1.00?**

17. **Calculate the net gain or loss in share price for each fund as appropriate.**

CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN
INTERPRETING THE ACCOUNT STATEMENT

MR. JAY BILLINGSLY
CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN

INDIVIDUAL STATEMENT OF ACCOUNT AS OF 9/30/94
ACCOUNT NUMBER: 21833579

	EURO-PACIFIC GROWTH	INVESTMENT CO. OF AMERICA	AMERICAN BALANCED	BOND FUND OF AMERICA	CASH MANAGEMENT	INTERMEDIATE BOND FUND	SMALL CAP WORLD	STOCKS	TOTAL
PREVIOUS BALANCE 6/30/94	5695.41	2375.98	0.00	0.00	0.00	5329.76	0.00	0.00	13401.15
CONTRIBUTIONS:									
EMPLOYEE	300.00	250.00	100.00	0.00	0.00	100.00	0.00	0.00	750.00
EMPLOYER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NEW BALANCE	5995.41	2625.98	100.00	0.00	0.00	5429.76	0.00	0.00	14151.15
INVESTMENT EARNINGS	119.90	-21.75	-15.63	0.00	0.00	108.59	0.00	0.00	191.11
WITHDRAWALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSFERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CURRENT BALANCE	6115.31	2604.23	84.37	0.00	0.00	5538.35	0.00	0.00	14342.26
INVESTMENT ELECTION 9/30/94	40%	33%	13%	0%	0%	14%	0%	0%	100%
SHARE PRICE									
6/30/94	19.12	17.85	22.56	13.28	1.00	N/A	N/A	N/A	
9/30/94	20.75	16.21	21.08	12.76	1.00	12.92	11.98	N/A	

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CRABCAKE PRESS 401(K)PLAN
INTERPRETING YOUR ACCOUNT STATEMENT
ANSWER KEY

1. Mr. Jay Billingsly owns the account.

2. An individual has the choice of investing in seven funds. A cash management account is not strictly an investment, but functions much as a bank account.

3. The statement is issued quarterly or four times a year: March 31, June 30, September 30, and December 31. The statement is issued every three months.

4. Mr. Billingsly contributed $750 over a three month period.

5. Mr. Billingsly contributed an average of $250 per month. (Use this question to discuss the savings habits of Americans in general and the necessity of setting one's own realistic savings goals. Compare this amount with other similar expenditures per month, such as a car payment.)

6. Mr. Billingsly invested in four funds.

7. Euro-Pacific Growth and the Intermediate Bond Fund made money during this time period. Reference the line called Investment Earnings.

8. Investment Company of America and American Balanced lost money during this time period.

9. Mr. Billingsly earned $191.11 in capital gain and dividends in this quarter.

10. Mr. Billingsly invested in American Balanced for the first time this quarter. Although that fund lost money this quarter, it is important to look at a fund's return over time. The more data collected over a longer time period, the better appraisal can be made of a fund's performance, although past performance does not guarantee future performance. It would be ideal to have data for newer funds since their creation. An ideal would be to have data on a fund's performance over a twenty year period.

11. Investment choices are not fixed. An individual may allocate funds in any amount and in any combination of funds. This is an advantage when performance data are available and studied to make wise choices. Individuals may change their allocations based on fund performances and individual needs such as salary changes and risk tolerance. Dividing up one's savings allocation also helps one to diversify so that if one fund performs poorly, those effects can be counterbalanced by other funds which are doing well.

12. The percentages under investment election are the percentages of Mr. Billingsly's total investment this quarter of $750 allocated to each fund.

13. The actual percentages are 13.33% which is a repeating decimal. One of them has been rounded up to 14% so that all the percentages add up to 100%.

14. Mr. Billingsly invested 40% of his savings this quarter in Euro-Pacific Growth. You can look at the dollar amount of the contributions or the percent of the investment election. This fund performed well during this quarter.

15. Mr. Billingsly invested 13.33% of his investment allocation in each of two funds: American Balanced and Intermediate Bond Fund.

16. The Cash Management Fund functions in a similar fashion to a bank account. It has no share price. Each dollar holds its own value.

17.

Euro-Pacific Growth Fund	20.75-19.12= +1.63 gain per share
Investment Co. of America	17.85-16.21= -1.64 loss per share
American Balanced	22.56-21.08= -1.48 loss per share
Bond Fund of America	13.28-12.76= - .52 loss per share

CRABCAKE PRESS 401(K) PLAN
ALLOCATING SAVINGS BY PERCENTAGES

DIRECTIONS: You have just received a small inheritance. You decide to invest $7000 of this inheritance in your 401(k) plan. Use the percentages given under "Investment Election" to fill in the blank portions of each column in the 401(k) savings statement.

Use the following information to figure Investment Earnings. Round to the nearest hundredth.

Interest= Principal x Rate x Time

Use .25 for Time (One fourth year)

Use the following rates for the respective companies:

Euro-Pacific Growth	.12
Investment Co. of America	-.04
American Balanced	.09
Intermediate Bond Fund	.07

CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN
ALLOCATING SAVINGS BY PERCENTAGES

EMPLOYEE NAME
CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN

INDIVIDUAL STATEMENT OF ACCOUNT AS OF 9/30/94
ACCOUNT NUMBER: 21833579

	EURO-PACIFIC GROWTH	INVESTMENT CO. OF AMERICA	AMERICAN BALANCED	BOND FUND OF AMERICA	CASH MANAGEMENT	INTERMEDIATE BOND FUND	SMALL CAP WORLD	STOCKS	TOTAL
PREVIOUS BALANCE 6/30/94	5695.41	2375.98	0.00	0.00	0.00	5329.76	0.00	0.00	13401.15
CONTRIBUTIONS:									
EMPLOYEE				0.00	0.00		0.00	0.00	7000.00
EMPLOYER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NEW BALANCE				0.00	0.00		0.00	0.00	
INVESTMENT EARNINGS				0.00	0.00		0.00	0.00	
WITHDRAWALS	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSFERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CURRENT BALANCE				0.00	0.00		0.00	0.00	
INVESTMENT ELECTION 9/30/94	30%	20%	15%	0%	0%	35%	0%	0%	100%
SHARE PRICE									
6/30/94	19.12	17.85	22.56	13.28	1.00	12.02	12.38	N/A	
9/30/94	20.75	16.21	23.51	12.76	1.00	12.93	11.97	N/A	
GAIN OR LOSS IN SHARE PRICE									

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CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN
ALLOCATING SAVINGS BY PERCENTAGES-ANSWER KEY

EMPLOYEE NAME
CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN

INDIVIDUAL STATEMENT OF ACCOUNT AS OF 9/30/94
ACCOUNT NUMBER: 21833579

	EURO-PACIFIC GROWTH	INVESTMENT CO. OF AMERICA	AMERICAN BALANCED	BOND FUND OF AMERICA	CASH MANAGEMENT	INTERMEDIATE BOND FUND	SMALL CAP WORLD	STOCKS	TOTAL
PREVIOUS BALANCE 6/30/94	5695.41	2375.98	0.00	0.00	0.00	5329.76	0.00	0.00	13401.15
CONTRIBUTIONS:									
EMPLOYEE	2100.00	1400.00	1050.00	0.00	0.00	2450.00	0.00	0.00	7000.00
EMPLOYER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NEW BALANCE	7795.41	3775.98	1050.00	0.00	0.00	7779.76	0.00	0.00	20401.15
INVESTMENT EARNINGS	233.86	-37.76	23.62	0.00	0.00	136.15	0.00	0.00	355.87
WITHDRAWALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSFERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CURRENT BALANCE	8029.27	3738.22	1073.62	0.00	0.00	7915.91	0.00	0.00	20757.02
INVESTMENT ELECTION 9/30/94	30%	20%	15%	0%	0%	35%	0%	0%	100%
SHARE PRICE									
6/30/94	19.12	17.85	22.56	13.28	1.00	12.02	12.38	N/A	
9/30/94	20.75	16.21	23.51	12.76	1.00	12.93	11.97	N/A	
GAIN OR LOSS IN SHARE PRICE	1.63	-1.64	0.95	-0.52	0	0.91	-0.41	N/A	0.92

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CRABCAKE PRESS 401(K) PLAN
FIGURING PERCENTAGES BASED ON DOLLAR ALLOCATIONS

DIRECTIONS: You have just received a small inheritance. You decide to invest $7000 of this inheritance in your 401(k) plan. Use the "Employee Contribution" amount under each fund to figure its percentage of the total $7000. Fill in the percentage contributed to each fund in the appropriate column of the "Investment Election" row.

Use the following information to figure "Investment Earnings." Round to the nearest hundredth.

Interest = Principal x Rate x Time

Use .25 for Time (One fourth year)

Use the following rates for the respective companies:

Euro-Pacific Growth	.09
Investment Co. of America	-.05
American Balanced	-.06
Intermediate Bond Fund	.08
Small Cap World	.11
Stocks	.12

Fill in all remaining blank portions of the account statement.

CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN
FIGURING PERCENTAGES BASED ON DOLLAR ALLOCATIONS

EMPLOYEE NAME
CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN

INDIVIDUAL STATEMENT OF ACCOUNT AS OF 9/30/94
ACCOUNT NUMBER: 21833579

	EURO-PACIFIC GROWTH	INVESTMENT CO. OF AMERICA	AMERICAN BALANCED	BOND FUND OF AMERICA	CASH MANAGEMENT	INTERMEDIATE BOND FUND	SMALL CAP WORLD	STOCKS	TOTAL
PREVIOUS BALANCE 6/30/94	5695.41	2375.98	0.00	0.00	0.00	5329.76	0.00	0.00	13401.15
CONTRIBUTIONS:									
EMPLOYEE	1750.00	350.00	1400.00	0.00	0.00	840.00	1960.00	700.00	7000.00
EMPLOYER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NEW BALANCE				0.00	0.00		0.00	0.00	
INVESTMENT EARNINGS				0.00	0.00				
WITHDRAWALS	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSFERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CURRENT BALANCE				0.00	0.00		0.00	0.00	
INVESTMENT ELECTION 9/30/94				0%	0%				100%
SHARE PRICE									
6/30/94	19.12	17.85	22.56	13.28	1.00	12.02	12.38	15.86	N\A
9/30/94	20.75	16.21	21.56	12.76	1.00	12.93	13.68	17.21	N\A
GAIN OR LOSS IN SHARE PRICE									

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CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN
FIGURING PERCENTAGES BASED ON DOLLAR ALLOCATIONS
ANSWER KEY

EMPLOYEE NAME
CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN

INDIVIDUAL STATEMENT OF ACCOUNT AS OF 9/30/94
ACCOUNT NUMBER: 21833579

	EURO-PACIFIC GROWTH	INVESTMENT CO. OF AMERICA	AMERICAN BALANCED	BOND FUND OF AMERICA	CASH MANAGEMENT	INTERMEDIATE BOND FUND	SMALL CAP WORLD	STOCKS	TOTAL
PREVIOUS BALANCE	5695.41	2375.98	0.00	0.00	0.00	5329.76	0.00	0.00	13401.15
6/30/94									
CONTRIBUTIONS:									
EMPLOYEE	1750.00	350.00	1400.00	0.00	0.00	840.00	1960.00	700.00	7000.00
EMPLOYER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NEW BALANCE	7445.41	2725.98	1400.00	0.00	0.00	6169.76	1960.00	700.00	20401.15
INVESTMENT EARNINGS	167.52	-34.07	-21.00	0.00	0.00	123.40	53.90	42.00	331.75
WITHDRAWALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSFERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CURRENT BALANCE	7612.93	2691.91	1379.00	0.00	0.00	6293.16	2013.90	742.00	20732.90
INVESTMENT ELECTION	25%	5%	20%	0%	0%	12%	28%	10%	100%
9/30/94									
SHARE PRICE									
6/30/94	19.12	17.85	22.56	13.28	1.00	12.02	12.38	15.86	N\A
9/30/94	20.75	16.21	21.56	12.76	1.00	12.93	13.68	17.21	N\A
GAIN OR LOSS IN SHARE PRICE	1.63	-1.64	-1.00	-.52	0.00	0.91	1.30	1.35	N\A

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CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN
FIGURING PERCENTAGES BASED ON DOLLAR ALLOCATIONS
ANSWER KEY

EMPLOYEE NAME
CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN

INDIVIDUAL STATEMENT OF ACCOUNT AS OF 9/30/94
ACCOUNT NUMBER: 21833579

	EURO-PACIFIC GROWTH	INVESTMENT CO. OF AMERICA	AMERICAN BALANCED	BOND FUND OF AMERICA	CASH MANAGEMENT	INTERMEDIATE BOND FUND	SMALL CAP WORLD	STOCKS	TOTAL
PREVIOUS BALANCE 6/30/94	5695.41	2375.98	0.00	0.00	0.00	5329.76	0.00	0.00	13401.15
CONTRIBUTIONS:									
EMPLOYEE	1750.00	350.00	1400.00	0.00	0.00	840.00	1960.00	700.00	7000.00
EMPLOYER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NEW BALANCE	7445.41	2725.98	1400.00	0.00	0.00	6169.76	1960.00	700.00	20401.15
INVESTMENT EARNINGS	167.52	-34.07	-21.00	0.00	0.00	123.40	53.90	42.00	331.75
WITHDRAWALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSFERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CURRENT BALANCE	7612.93	2691.91	1379.00	0.00	0.00	6293.16	2013.90	742.00	20732.90
INVESTMENT ELECTION 9/30/94	25%	5%	20%	0%	0%	12%	28%	10%	100%
SHARE PRICE									
6/30/94	19.12	17.85	22.56	13.28	1.00	12.02	12.38	15.86	N\A
9/30/94	20.75	16.21	21.56	12.76	1.00	12.93	13.68	17.21	N\A
GAIN OR LOSS IN SHARE PRICE	1.63	-1.64	-1.00	-.52	0.00	0.91	1.30	1.35	N\A

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CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN
FIGURING PERCENTAGES BASED ON DOLLAR ALLOCATIONS
ANSWER KEY

EMPLOYEE NAME
CRABCAKE PRESS 401 (K) PROFIT SHARING PLAN

INDIVIDUAL STATEMENT OF ACCOUNT AS OF 9/30/94
ACCOUNT NUMBER: 21833579

	EURO-PACIFIC GROWTH	INVESTMENT CO. OF AMERICA	AMERICAN BALANCED	BOND FUND OF AMERICA	CASH MANAGEMENT	INTERMEDIATE BOND FUND	SMALL CAP WORLD	STOCKS	TOTAL
PREVIOUS BALANCE 6/30/94	5695.41	2375.98	0.00	0.00	0.00	5329.76	0.00	0.00	13401.15
CONTRIBUTIONS:									
EMPLOYEE	1750.00	350.00	1400.00	0.00	0.00	840.00	1960.00	700.00	7000.00
EMPLOYER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NEW BALANCE	7445.41	2725.98	1400.00	0.00	0.00	6169.76	1960.00	700.00	20401.15
INVESTMENT EARNINGS	167.52	-34.07	-21.00	0.00	0.00	123.40	53.90	42.00	331.75
WITHDRAWALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSFERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CURRENT BALANCE	7612.93	2691.91	1379.00	0.00	0.00	6293.16	2013.90	742.00	20732.90
INVESTMENT ELECTION 9/30/94	25%	5%	20%	0%	0%	12%	28%	10%	100%
SHARE PRICE									
6/30/94	19.12	17.85	22.56	13.28	1.00	12.02	12.38	15.86	N\A
9/30/94	20.75	16.21	21.56	12.76	1.00	12.93	13.68	17.21	N\A
GAIN OR LOSS IN SHARE PRICE	1.63	-1.64	-1.00	-.52	0.00	0.91	1.30	1.35	N\A

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Activity 4 - Investment Company of America

(Need copy of I.C.A. graph and directions)

1. What is the title of this graph?

2. What information does this graph provide to the investor?

3. What time period does this graph represent?

4. What information does the horizontal axis provide?

The vertical axis?

5. Which bar represents Investment Company of America?

What is I.C.A. being compared to in performance?

6. How did I.C.A. compare to S&P 500 in 1982?

Activity 4 - Investment Company of America

(Need copy of I.C.A. graph and directions)

7. In which years did I.C.A. exceed Growth, Inc.'s performance?

8. In which years did the S&P 500 outperform I.C.A.?

9. An average, which of the three companies produced the best return over the period shown?

10. Compare I.C.A.'s performance in 1977 to its performance in 1987.

11. In what does I.C.A. mostly invest?

Activity 4 - Investment Company of America

(Need copy of I.C.A. graph and directions)

1. **What is the title of this graph?**

   ans. ***I.C.A. Performance Graph as of 5/31/94***

2. **What information does this graph provide to the investor?**

   ans. ***compares annual percentage increase or decrease of I.C.A.'s fund to that of the S&P 500 and Growth, Inc.; shows total return % and average annual return % for 1/76 - 5/94***

3. **What time period does this graph represent?**

   ans. ***1/76 - 5/94***

4. **What information does the horizontal axis provide?**

   ans. ***years of measurement***

   The vertical axis?

   ans. ***% change***

5. **Which bar represents Investment Company of America?**

   ans. ***solid black***

   What is I.C.A. being compared to in performance?

   ans. ***S&P 500 and Growth, Inc.***

6. **How did I.C.A. compare to S&P 500 in 1982?**

   ans. ***It's fund increased by 13% more than S&P 500***

Activity 4 - Investment Company of America

(Need copy of I.C.A. graph and directions)

7. **In which years did I.C.A. exceed Growth, Inc.'s performance?**

   ans. 1976, 78, 81, 82, 84, 85, 86, 87, 89, 90, 93, 94

8. **In which years did the S&P 500 outperform I.C.A.?**

   ans. 1980, 83, 88, 89, 91, 92

9. **An average, which of the three companies produced the best return over the period shown?**

   ans. I.C.A., with an average annual return of 15.26%

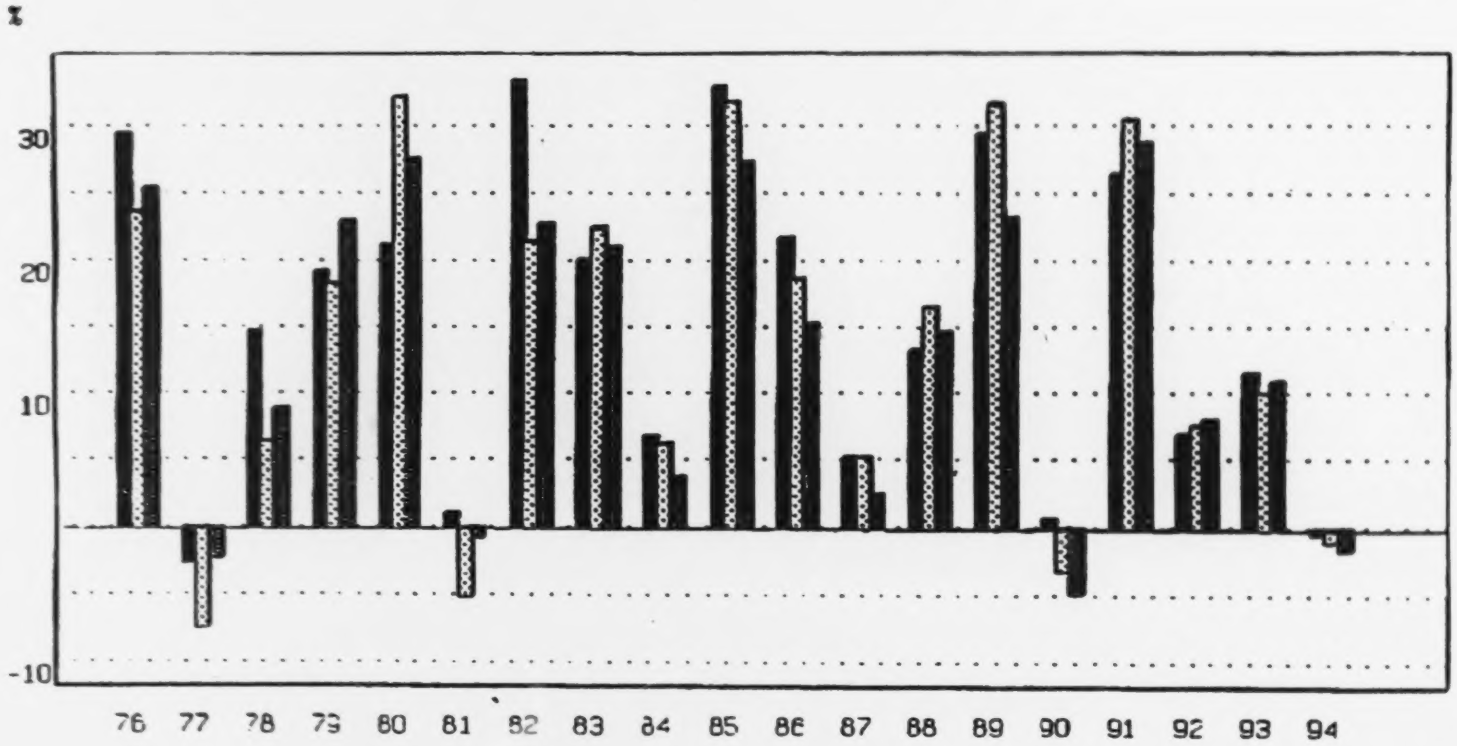
10. **Compare I.C.A.'s performance in 1977 to its performance in 1987.**

    ans. In 1977, I.C.A.'s fund decreased by 2.5%. In 1987, the fund increased by 5%, a net increase of 7.5% from 1977 to 1987.

11. **In what does I.C.A. mostly invest?**

    ans. common stocks

INVESTMENT COMP OF AMERICA
PERFORMANCE GRAPH
As of 05/31/94



		TOTAL RETURN %	AVG. ANNUAL RETURN %	TIME PERIOD
■	The Fund:	1268.12	15.25	1/76-5/94
░	S&P 500	971.04	13.74	1/76-5/94
▓	Growth-Inc:	887.26	13.24	1/76-5/94

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INVESTMENT COMP OF AMERICA
INVESTMENT CRITERIA

Investment Company of America seeks long-term growth of capital and income.

The fund invests primarily in common stocks, but it may also invest in high-quality convertibles and debt securities. When choosing securities for investment, the possibility of appreciation and potential dividends are given more weight than current yield. Stocks are chosen from an eligible list prepared by the fund's directors. The fund may invest in foreign issues.

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Activity 5 - Bond Fund of America

(Need copy of B.F.A. graph and directions and I.C.A. graph)

1. **What is the title of this graph?**

2. **What information does this graph provide to assist in your investment decision?**

3. **How did the Bond Fund of America perform, on average, compared to L.B. Corp. and Corp. General?**

4. **In what years did the Bond Fund outperform L.B. Corp.?**

5. **In what year did the Bond Fund show the largest percentage increase? The smallest?**

6. **In what does B.F.A. invest most of its assets?**

Activity 5 - Bond Fund of America

(Need copy of B.F.A. graph and directions and I.C.A. graph)

7. Compare Bond Fund of America to Investment Corp. of America.

- **a. Which company had a higher average annual return?**
- **b. By what percent did it outperform in average annual return?**
- **c. With which company would you prefer to invest? Why?**

8. Looking at both graphs,, what can you infer occurred in the stock and bond markets in 1979?

Activity 5 - Bond Fund of America

(Need copy of B.F.A. graph and directions and I.C.A. graph)

1. **What is the title of this graph?**

   ans. Bond Fund of America Performance Graph as of 5/31/94

2. **What information does this graph provide to assist in your investment decision?**

   ans. % change of Bond Fund's investments from 1976 to 1994; comparison of B.F.A. to LB Corp. and Corp. General; average annual and total return of the fund compared to LB Corp. and Corp. General.

3. **How did the Bond Fund of America perform, on average, compared to L.B. Corp. and Corp. General?**

   ans. the Bond Fund outperformed the others (.45% better than LB Corp., 1.20% better than Corp. General)

4. **In what years did the Bond Fund outperform L.B. Corp.?**

   ans. 1977, 78, 79, 80, 81, 85, 88, 91, 92, 93

5. **In what year did the Bond Fund show the largest percentage increase?**
   The smallest?

   ans. 1982; 1978

6. **In what does B.F.A. invest most of its assets?**

   ans. High grade straight debt securities, government securities, or high grade short-term investments.

Activity 5 - Bond Fund of America

(Need copy of B.F.A. graph and directions and I.C.A. graph)

7. Compare Bond Fund of America to Investment Corp. of America.

a. Which company had a higher average annual return?

ans. I.C.A.

b. By what percent did it outperform in average annual return?

ans. 15.26 - 10.66 = 4.60

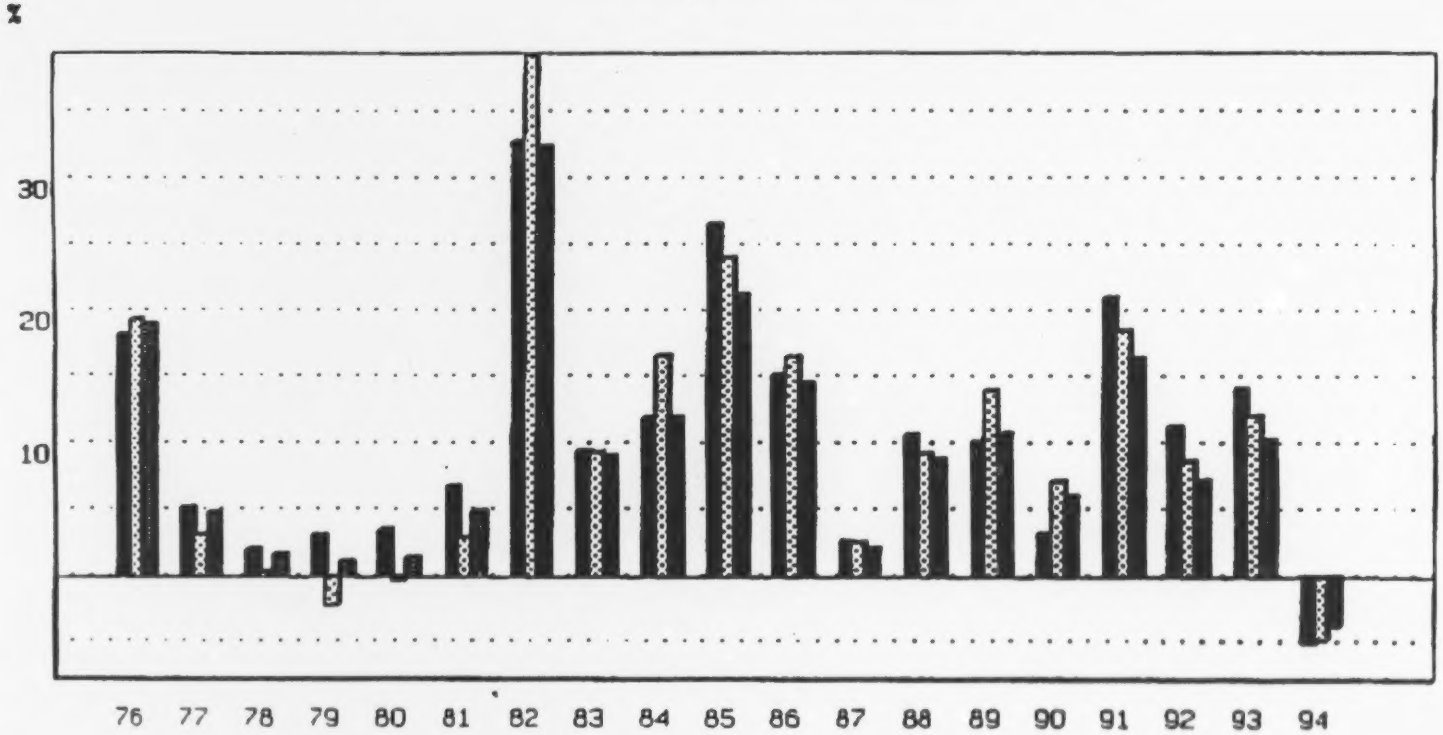
c. With which company would you prefer to invest? Why?

ans. varies--should include risk and return factors

8. Looking at both graphs,, what can you infer occurred in the stock and bond markets in 1979?

ans. Stocks showed an increase of approximately 20%, bonds grew by less than 5% or decreased in value

BOND FUND OF AMERICA
PERFORMANCE GRAPH
As of 05/31/94



		TOTAL RETURN %	AVG. ANNUAL RETURN %	TIME PERIOD
■	The Fund:	546.22	10.66	1/76-5/94
░	LB Corp	499.03	10.21	1/76-5/94
▩	Corp General:	428.56	9.46	1/76-5/94

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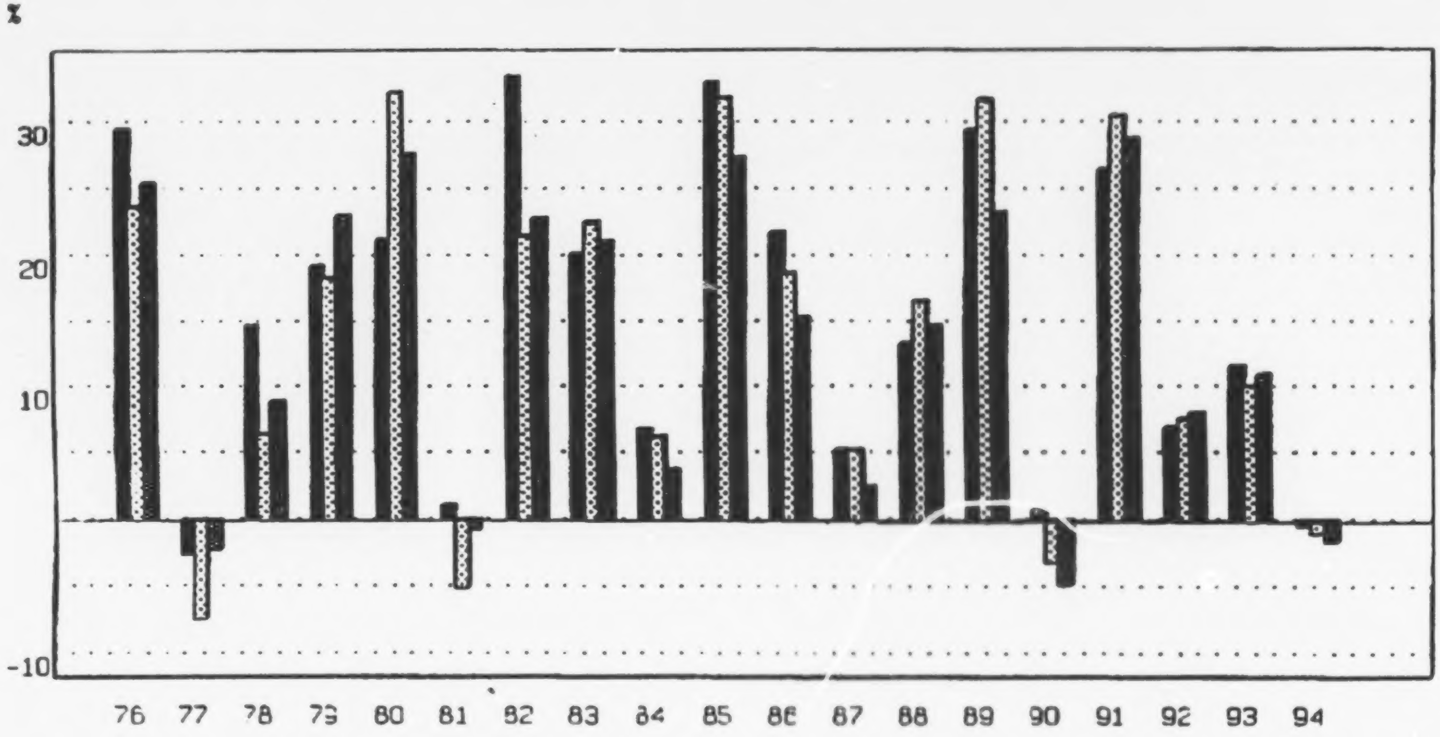
BOND FUND OF AME
INVESTMENT CRITE

Bond Fund of America seeks current income consistent with the ,
capital.

The fund invests in a diversified portfolio consisting primarily of marketable fixed-income debt securities, government obligations, and money-market instruments. At least 60% of the fund's assets are invested in high-grade (A or better) straight debt securities, government securities, or high-grade short-term investments. The balance of assets may be invested in other debt securities, but any security rated below BBB is subject to special review.

yright Morningstar Inc., 1994

INVESTMENT COMP OF AMERICA
PERFORMANCE GRAPH
As of 05/31/94



		TOTAL RETURN %	AVG. ANNUAL RETURN %	TIME PERIOD
■	The Fund:	1268.12	15.25	1/76-5/94
▒	S&P 500	971.04	13.74	1/76-5/94
▩	Growth-Inc:	887.26	13.24	1/76-5/94

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WHOLE NUMBER WORD PROBLEMS

COMPETENCY: Solve word problems using whole numbers.

OBJECTIVE: To solve word problems using whole numbers.

DIRECTIONS: Solve the following problems:

1. If the morning shift can complete 10,050 pieces in one hour. How many pieces can be processed in seven hours?

2. The afternoon shift can complete 4,680 self mailers in an hour. How many pieces can be completed in five hours?

3. John earns $6 per hour and he worked 40 hours last week. What were his total earnings for the week?

4. Joan gets $8 per hour and worked 36 hours in a certain week. What was her gross pay for that week?

5. Al gets $7.80 an hour and he worked four weeks this month. His total hours were 160. What was his pay for the month?

WHOLE NUMBER WORD PROBLEMS

COMPETENCY: Solve word problems using whole numbers.

OBJECTIVE: To solve word problems using whole numbers.

DIRECTIONS: Solve the following problems:

1. If the morning shift can complete 10,050 pieces in one hour. How many pieces can be processed in seven hours? 70,350

2. The afternoon shift can complete 4,680 self mailers in an hour. How many pieces can be completed in five hours? 23,400

3. John earns $6 per hour and he worked 40 hours last week. What were his total earnings for the week? $240

4. Joan gets $8 per hour and worked 36 hours in a certain week. What was her gross pay for that week? $288

5. Al gets $7.80 an hour and he worked four weeks this month. His total hours were 160. What was his pay for the month? $1248

READING AND WRITING DECIMALS

COMPETENCY:	Ability to read and write decimal numerals.
OBJECTIVE:	To read and write decimal numerals.
DIRECTIONS:	Read and then write the following numerals:

1. 20.5
2. 723.16
3. 1835.07
4. 207.234
5. 1563.009
6. 12056.2379
7. 20.456
8. 190.002
9. 9203.0156
10. 888.888

DIRECTIONS: Write the corresponding numeral for each expression:

1. thirty-six and twelve hundredths.
2. seven hundred and four tenths.
3. eight hundred fifty-seven and twenty eight thousandths.
4. nine hundred sixty and eight hundred six thousandths.
5. ten thousand thirty-two and twenty-one thousandths.

READING AND WRITING DECIMALS

COMPETENCY: Ability to read and write decimal numerals.

OBJECTIVE: To read and write decimal numerals.

DIRECTIONS: Read and then write the following numerals:

1. 20.5 twenty and five tenths
2. 723.16 Seven hundred thirty-two and sixteen hundredths
3. 1835.07 one thousand eight hundred thirty five and seven hundredths
4. 207.234 two hundred seven and two hundred thirty four thousandths
5. 1563.009 one thousand five hundred sixty three and nine thousandths
6. 12056.2379 twelve thousand fifty six and two thousand three hundred seve nine ten thousan
7. 20.456 twenty and four hundred fifty six thousandths
8. 190.002 one hundred ninety and two thousandths
9. 9203.0156 nine thousand two hundred three and one hundred fifty six te thousandt
10. 888.888 eight hundred eighty eight and eight hundred eighty-eight thousandths

DIRECTIONS: Write the corresponding numeral for each expression:

1. thirty-six and twelve hundredths. 36.12
2. seven hundred and four tenths. 700.4
3. eight hundred fifty-seven and twenty eight thousandths. 857.028
4. nine hundred sixty and eight hundred six thousandths. 960.806
5. ten thousand thirty-two and twenty-one thousandths. 10032.021

ROUNDING DECIMALS

COMPETENCY: Rounding decimals

OBJECTIVE: To round whole numbers.

DIRECTIONS: Round to the nearest tens place:

1. 568
2. 1573
3. 2579
4. 8099
5. 563

DIRECTIONS: Round to the nearest hundreds place:

1. 586
2. 1468
3. 1035
4. 1086
5. 4563

DIRECTIONS: Round to the nearest thousand place:

1. 1236
2. 4567
3. 9236
4. 16782
5. 78235

DIRECTIONS: Round to the nearest

ten thousand:
1. 27895
2. 306789
3. 782345
4. 900675
5. 299653

hundred thousand:
1. 2067532
2. 562123
3. 803562
4. 103578
5. 1205678

ROUNDING DECIMALS

COMPETENCY: Rounding decimals

OBJECTIVE: To round whole numbers.

DIRECTIONS: Round to the nearest tens place:

1. 568 570
2. 1573 1570
3. 2579 2580
4. 8099 9100
5. 563 560

DIRECTIONS: Round to the nearest hundreds place:

1. 586 600
2. 1468 1500
3. 1035 1000
4. 1086 1100
5. 4563 4600

DIRECTIONS: Round to the nearest thousand place:

1. 1236 1000
2. 4567 5000
3. 9236 9000
4. 16782 17,000
5. 78235 78,000

DIRECTIONS: Round to the nearest

ten thousand:
1. 27895 30,000
2. 306789 310,000
3. 782345 780,000
4. 900675 900,000
5. 299653 300,000

hundred thousand:
1. 2067532 2,100,000
2. 562123 600,000
3. 803562 800,000
4. 103578 100,000
5. 1205678 1,200,000

ROUNDING DECIMALS

COMPETENCY: Rounding decimals

OBJECTIVE: To round decimals

DIRECTIONS: Round to nearest ones (whole numbers):

1. 63.5
2. 78.3
3. 49.09
4. 700.6
5. 234.567

DIRECTIONS: Round to nearest tenth:

1. 8.67
2. 4.10
3. 15.09
4. 16.95
5. 17.03

DIRECTIONS: Round to nearest hundredth:

1. 25.078
2. 135.063
3. 234.093
4. 783.009
5. 234.101
6. 1567.233
7. 2001.999

ROUNDING DECIMALS

COMPETENCY: Rounding decimals

OBJECTIVE: To round decimals

DIRECTIONS: Round to nearest ones (whole numbers):

1. 63.5 64
2. 78.3 78
3. 49.09 49
4. 700.6 ~~0~~ 701
5. 234.567 235

DIRECTIONS: Round to nearest tenth:

1. 8.67 8.7
2. 4.10 4.1
3. 15.09 15.1
4. 16.95 17.0
5. 17.03 17.0

DIRECTIONS: Round to nearest hundredth:

1. 25.078 25.08
2. 135.063 135.06
3. 234.093 234.09
4. 783.009 783.01
5. 234.101 234.10
6. 1567.233 1567.23
7. 2001.999 2002.00

POSTAGE METER

COMPETENCY: Solve problems using decimals.

OBJECTIVES: To solve problems using decimal operations.

DIRECTIONS: Complete the chart:

Postage Meter Readings:

Readings		Postage Used
1,000	298.899	
900.601	95.061	
798.05	103.062	
	204.507	696.563
	96.563	456.231
	92.003	823.051
	843.201	145.278
1300		1156.042
809		706.803

POSTAGE METER

COMPETENCY: Solve problems using decimals.

OBJECTIVES: To solve problems using decimal operations.

DIRECTIONS: Complete the chart:

Postage Meter Readings:

Readings		Postage Used
1,000	298.899	701.101
900.601	95.061	805.54
798.05	103.062	694.988
901.07	204.507	696.563
552.794	96.563	456.231
915.054	92.003	823.051
988.479	843.201	145.278
1300	143.958	1156.042
809	102.197	706.803

WHOLE NUMBER WORD PROBLEMS

COMPETENCY: Solve word problems using whole numbers.

OBJECTIVES: To solve word problems using whole numbers.

DIRECTIONS: Solve the following problems:

1. Daryl earned $240 last week. He worked 40 hours. What is his hourly wage?

2. Amy earned $400 this week. She worked a 40 hour week. What is her hourly wage?

3. Justin worked 36 hours and earned $252 that week. What is Justin's wage/hour?

4. 216,000 pieces were processed on Monday in eight hours. How many pieces were processed per hour?

5. 927,000 pieces were processed on Tuesday and Wednesday. Nine hours were spent on this job. How many pieces were processed per hour?

WHOLE NUMBER WORD PROBLEMS

COMPETENCY: Solve word problems using whole numbers.

OBJECTIVES: To solve word problems using whole numbers.

DIRECTIONS: Solve the following problems:

1. Daryl earned $240 last week. He worked 40 hours. What is his hourly wage?

   $6/hr.

2. Amy earned $400 this week. She worked a 40 hour week. What is her hourly wage?

   $10/hr.

3. Justin worked 36 hours and earned $252 that week. What is Justin's wage/hour?

   $7/hr.

4. 216,000 pieces were processed on Monday in eight hours. How many pieces were processed per hour?

   27,000

5. 927,000 pieces were processed on Tuesday and Wednesday. Nine hours were spent on this job. How many pieces were processed per hour?

   103,000/hr

READING AND WRITING DOLLARS

COMPETENCY: Ability to read and write dollar and cents

OBJECTIVE: To be able to read and write dollar expressions

DIRECTIONS: Read/write in words the following amounts:

1. $16.80
2. $402.36
3. $768.02
4. $5006.38
5. $500.20
6. $295.10
7. $1020.06
8. $780.00
9. $50603.28

DIRECTIONS: Write the numerals for the following amounts:

1. Six hundred dollars and thirty cents.

2. Four thousand three hundred twenty five and ninety six cents.

3. Ten thousand eight hundred fifty and forty eight cents.

4. Seven hundred four and eight cents.

5. Twenty thousand, six hundred and fifty three cents.

READING AND WRITING DOLLARS

COMPETENCY: Ability to read and write dollar and cents

OBJECTIVE: To be able to read and write dollar expressions

DIRECTIONS: Read/write in words the following amounts:

1. $16.80 sixteen dollars and eighty cents
2. $402.36 four hundred two dollars and thirty six cents
3. $768.02 seven hundred sixty eight dollars and two cents
4. $5006.38 five thousand six dollars and thirty eight cents
5. $500.20 five hundred and twinty cents
6. $295.10 two hundred ninety five dollars and ten cents
7. $1020.06 one thousand twenty dollars and six ce
8. $780.00 seven hundred eighty dollars
9. $50603.28 fifty thousand six hundred three dollars and twenty eight cents

DIRECTIONS: Write the numerals for the following amounts:

1. Six hundred dollars and thirty cents.
   $ 600.30
2. Four thousand three hundred twenty five and ninety six cents.
   $4,325.06
3. Ten thousand eight hundred fifty and forty eight cents.
   $10,850.48
4. Seven hundred four and eight cents.
   $ 704.08
5. Twenty thousand, six hundred and fifty three cents.
   $20,600.53

ROUNDING MONEY

COMPETENCY: Estimation of dollars and cents.

OBJECTIVE: To be able to round dollars and cents.

DIRECTIONS: Round to the nearest cent:

1. $6.081
2. $15.093
3. $45.015
4. $360.128
5. $456.232
6. $564.399
7. $23.608
8. $578.999

DIRECTIONS: Round to the nearest tenth or ten cents:

1. $25.36
2. $173.51
3. $28.68
4. $95.09
5. $27.03
6. $134.95

DIRECTIONS: Round to the nearest dollar:

1. $23.60
2. $135.06
3. $237.95
4. $368.28
5. $6954.83
6. $2955.55
7. $2667.81
8. $3800.98

DIRECTIONS: Round to the nearest 10 dollar:

1. $275
2. $609
3. $603
4. $956
5. $899
6. $1206

ROUNDING MONEY

COMPETENCY: Estimation of dollars and cents.

OBJECTIVE: To be able to round dollars and cents.

DIRECTIONS: Round to the nearest cent:

1. $6.081 6.08
2. $15.093 15.09
3. $45.015 45.02
4. $360.128 360.13
5. $456.232 456.23
6. $564.399 564.40
7. $23.608 23.61
8. $578.999 579.00

DIRECTIONS: Round to the nearest tenth or ten cents:

1. $25.36 25.40
2. $173.51 173.50
3. $28.68 28.70
4. $95.09 95.10
5. $27.03 27.00
6. $134.95 135.00

DIRECTIONS: Round to the nearest dollar:

1. $23.60 24.00
2. $135.06 135.00
3. $237.95 236.00
4. $368.28 368.00
5. $6954.83 6955.00
6. $2955.55 2956.00
7. $2667.81 2668.00
8. $3800.98 3801.00

DIRECTIONS: Round to the nearest 10 dollar:

1. $275 $280.00
2. $609 $610.00
3. $603 $600.00
4. $956 $1000.00
5. $899 $900.00
6. $1206 $1210.00

READING AND WRITING DECIMALS

COMPETENCY: Ability to read and write decimal numerals.

OBJECTIVE: To read and write decimal numerals.

DIRECTIONS: Read and then write the following numerals:

1. 20.5
2. 723.16
3. 1835.07
4. 207.234
5. 1563.009
6. 12056.2379
7. 20.456
8. 190.002
9. 9203.0156
10. 888.888

DIRECTIONS: Write the corresponding numeral for each expression:

1. thirty-six and twelve hundredths.
2. seven hundred and four tenths.
3. eight hundred fifty-seven and twenty eight thousandths.
4. nine hundred sixty and eight hundred six thousandths.
5. ten thousand, thirty-two and twenty-one thousandths.

READING AND WRITING DECIMALS

COMPETENCY: Ability to read and write decimal numerals.

OBJECTIVE: To read and write decimal numerals.

DIRECTIONS: Read and then write the following numerals:

1. 20.5 twenty and five tenths
2. 723.16 seven hundred twenty three and sixteen hundredths
3. 1835.07 one thousand eight hundred thirty five and seven hundredths
4. 207.234 two hundred seven and two hundred thirty four thousandths
5. 1563.009 one thosand five hundred sixty three and nine thousandths
6. 12056.2379 twelve thousand fifty six and two thousand three hundred seventy n.
7. 20.456 twenty and foor hundred fifty six thousandths ten thousan
8. 190.002 one hundred hinety and two thousandths
9. 9203.0156 nine thousand two hundred three and one hundred fifty six ten
10. 888.888 eight hundred eighty eight and eight hundred eighty eight thousandth
thousandths

DIRECTIONS: Write the corresponding numeral for each expression:

1. thirty-six and twelve hundredths. 36.12
2. seven hundred and four tenths. 700.4
3. eight hundred fifty-seven and twenty eight thousandths. 857.028
4. nine hundred sixty and eight hundred six thousandths. 960.806
5. ten thousand, thirty-two and twenty-one thousandths. 10,032.021

ROUNDING WHOLE NUMBERS

COMPETENCY: Round whole numbers.

OBJECTIVE: To round whole numbers.

DIRECTIONS: Round to the nearest tens place:

1. 568
2. 1573
3. 2579
4. 8099
5. 563

DIRECTIONS: Round to the nearest hundreds place:

1. 586
2. 1468
3. 1035
4. 1086
5. 4563

DIRECTIONS: Round to the nearest thousand place:

1. 1236
2. 4567
3. 9236
4. 16782
5. 78235

DIRECTIONS: Round to nearest ten thousand:

1. 27895
2. 306789
3. 782345
4. 900675
5. 299653

Hundred thousand:

1. 2067532
2. 562123
3. 803562
4. 103578
5. 1205678

ROUNDING WHOLE NUMBERS

COMPETENCY: Round whole numbers.

OBJECTIVE: To round whole numbers.

DIRECTIONS: Round to the nearest tens place:

1. 568 570
2. 1573 1570
3. 2579 2580
4. 8099 8100
5. 563 560

DIRECTIONS: Round to the nearest hundreds place:

1. 586 600
2. 1468 1500
3. 1035 1000
4. 1086 1100
5. 4563 4600

DIRECTIONS: Round to the nearest thousand place:

1. 1236 1000
2. 4567 5000
3. 9236 9000
4. 16782 17000
5. 78235 78000

DIRECTIONS: Round to nearest ten thousand:

1. 27895 30,000
2. 306789 310.000
3. 782345 780,000
4. 900675 900,000
5. 299653 300,000

Hundred thousand:

1. 2067532 2,100,000
2. 562123 600,000
3. 803562 800,00
4. 103578 100,000
5. 1205678 1,200,000

ROUNDING DECIMALS

COMPETENCY: Round to nearest ones (whole numbers).

OBJECTIVE: To round decimals

DIRECTIONS: Round to nearest ones (whole numbers):

1. 63.5
2. 78.3
3. 49.09
4. 700.6
5. 234.567

Round to nearest tenth:

1. 8.67
2. 4.10
3. 15.09
4. 16.95
5. 17.03

Round to nearest hundredth:

1. 25.078
2. 135.063
3. 783.009
4. 1567.233
5. 2001.999

ROUNDING DECIMALS

COMPETENCY: Round to nearest ones (whole numbers).

OBJECTIVE: To round decimals

DIRECTIONS: Round to nearest ones (whole numbers):

1. 63.5 64
2. 78.3 78
3. 49.09 49
4. 700.6 701
5. 234.567 235

Round to nearest tenth:

1. 8.67 8.7
2. 4.10 4.1
3. 15.09 15.1
4. 16.95 17.0
5. 17.03 17.0

Round to nearest hundredth:

1. 25.078 25.08
2. 135.063 135.06
3. 783.009 783 01
4. 1567.233 1567.23
5. 2001.999 2002.00

POSTAGE METER

COMPETENCY: Solve problems using decimals.

OBJECTIVE: To solve problems using decimal operations.

DIRECTIONS: Complete the chart:

Readings

Start	Finish	Postage Used
1000	298.899	
900.601	95.061	
798.05	103.062	
	204.507	696.563
	96.563	456.231
	92.003	823.051
	843.201	145.278
1300		1156.042
809		706.803

POSTAGE METER

COMPETENCY: Solve problems using decimals.

OBJECTIVE: To solve problems using decimals operations.

DIRECTIONS: Complete the chart:

Readings

Start	Finish	Postage Used
1000	298.899	701.101
900.601	95.061	805.54
798.05	103.062	694.988
901.07	204.507	696.563
552.794	96.563	456.231
915.054	92.003	823.051
988.479	843.201	145.278
1300	143.958	1156.042
809	102.197	706.803

POSTAGE METER PROBLEMS

COMPETENCY: Solve problems using decimals.

OBJECTIVE: To solve problems using decimals.

DIRECTIONS: Solve the problems:

1. At the beginning of the shift the postage meter reads 2,000. The reading at the end of the shift is 365.07. How much postage was used?

2. At the break, the postage meter reads 1236.056. The beginning reading had been 2500. How much postage has been used so far?

3. The postage used on one meter was 956.035. The beginning reading was 1300. What was the final reading?

4. The final reading on one postage meter was 31.056. The postage processed was 865.944. What was the beginning reading?

5. The postage used on a certain meter was 749.986. The beginning reading was 1000. What will be the final reading?

POSTAGE METER PROBLEMS

COMPETENCY: Solve problems using decimals.

OBJECTIVE: To solve problems using decimals.

DIRECTIONS: Solve the problems:

1. At the beginning of the shift the postage meter reads 2,000. The reading at the end of the shift is 365.07. How much postage was used?

1634.93

2. At the break, the postage meter reads 1236.056. The beginning reading had been 2500. How much postage has been used so far?

1263.944

3. The postage used on one meter was 956.035. The beginning reading was 1300. What was the final reading?

343.965

4. The final reading on one postage meter was 31.056. The postage processed was 865.944. What was the beginning reading?

897.00

5. The postage used on a certain meter was 749.986. The beginning reading was 1000. What will be the final reading?

250.014

EARNINGS PROBLEMS

COMPETENCY: Solve problems using decimals.

OBJECTIVE: To solve problems using decimals.

DIRECTIONS: Solve the problems.

1. Darita worked 40 hours this week. She is a level 3 employee ($5.90/hr). What is her gross pay for this week?

2. Jill's hourly wage is $6.30. She worked her 40 hours this week. How much did she earn?

3. Jon worked 32 hours this week at $7.80/hr. What is his earnings for this week?

4. Andrew makes $5.60/hr and worked 36 hours the first week and 40 hours the second week. What are his total earnings for this two week period?

5. In one month, Nancy worked four 40 hour weeks. She earns $6.30/hr. What was her total pay for the month?

EARNINGS PROBLEMS

COMPETENCY: Solve problems using decimals.

OBJECTIVE: To solve problems using decimals.

DIRECTIONS: Solve the problems:

1. Darita worked 40 hours this week. She is a level 3 employee ($5.90/hr). What is her gross pay for this week? $236

2. Jill's hourly wage is $6.30. She worked her 40 hours this week. How much did she earn?
$ 252

3. Jon worked 32 hours this week at $7.80/hr. What is his earnings for this week?
$ 249.60

4. Andrew makes $5.60/hr and worked 36 hours the first week and 40 hours the second week. What are his total earnings for this two week period?
$425.60

5. In one month, Nancy worked four 40 hour weeks. She earns $6.30/hr. What was her total pay for the month? $1008.00

OVERTIME PAY

COMPETENCY:	Solve overtime problems.
OBJECTIVE:	To solve overtime problems.
DIRECTIONS:	Solve the following problems:

1. Jim makes $7.50/hr. Jim worked two hours overtime. What was his overtime pay?

2. What was John's overtime pay if John worked 18 hours overtime and his usual pay is $6/hr.

3. Danton earns $6.50/hr. He has nine hours of overtime and wants to know what his overtime pay will be.

4. Nancy worked 12 hours of overtime. Her usual pay rate is $5.60/hr. What is her overtime paycheck?

5. John worked 10 hours of overtime one week and four hours overtime the next week. His usual pay rate is $10.80/hr. What was his overtime pay for those two weeks?

OVERTIME PAY

COMPETENCY: Solve overtime problems.

OBJECTIVE: To solve overtime problems.

DIRECTIONS: Solve the following problems:

1. Jim makes $7.50/hr. Jim worked two hours overtime. What was his overtime pay?

   $22.50

2. What was John's overtime pay if John worked 18 hours overtime and his usual pay is $6/hr.

   $162.00

3. Danton earns $6.50/hr. He has nine hours of overtime and wants to know what his overtime pay will be.

   $87.75

4. Nancy worked 12 hours of overtime. Her usual pay rate is $5.60/hr. What is her overtime paycheck?

   $100.80

5. John worked 10 hours of overtime one week and four hours overtime the next week. His usual pay rate is $10.80/hr. What was his overtime pay for those two weeks?

   $226.80

TOTAL PAY

COMPETENCY: Solving two operation regular and overtime word problems.

OBJECTIVE: To be able to solve two operation word problems.

DIRECTIONS: Solve the following problems:

1. In one week, Tom worked 40 hours and 13 hours overtime. What was his total pay if his hourly wage was $6.50?

2. Tammy worked 40 hours and 16 hours overtime. What was her total pay for the week if her hourly wage was $8.30?

3. Josh had 40 hours and 2.5 hours overtime on his time card. What was his pay for that week if his hourly wage was $6.80?

4. Tim worked 80 hours and 5.5 hours of overtime at $7.20 an hour for two weeks?

5. In a month John accumulated 4 - forty hour weeks at $5.60/hour. He also accrued 16.5 hours of overtime. What was his gross pay for the month?

TOTAL PAY

COMPETENCY: Solving two operation regular and overtime word problems.

OBJECTIVE: To be able to solve two operation word problems.

DIRECTIONS: Solve the following problems:

1. In one week, Tom worked 40 hours and 13 hours overtime. What was his total pay if his hourly wage was $6.50? $386.75

2. Tammy worked 40 hours and 16 hours overtime. What was her total pay for the week if her hourly wage was $8.30? $531.20

3. Josh had 40 hours and 2.5 hours overtime on his time card. What was his pay for that week if his hourly wage was $6.80? $297.50

4. Tim worked 80 hours and 5.5 hours of overtime at $7.20 an hour for two weeks?

$635.40

5. In a month John accumulated 4 - forty hour weeks at $5.60/hour. He also accrued 16.5 hours of overtime. What was his gross pay for the month?

$1034.60

TRANSPORTATION COST

COMPETENCY: Solving work problems.

OBJECTIVE: To be able to solve word problems.

DIRECTIONS: Solve the following problems:

1. If you purchase your bus/rail pass for $39 at DMA and the actual cost is $42, what is the percent discount?

2. Your light rail pass is $39 a month. In that month you traveled 22 days to and from work. If you had paid $2.20 each day what would have your spent?

   How much did you save with your pass?

3. In June, Jane went to work 20 days and used her pass 6 other round trips on the bus. Her monthly bus pass was $39. Her usual fare would be $2.50 a round trip. How much did she save with her pass?

4. Bob had a pass for July but was ill and only used the pass for work, and only worked 16 days. If the pass was $39 did he save money or lose it?

TRANSPORTATION COST

COMPETENCY: Solving work problems.

OBJECTIVE: To be able to solve word problems.

DIRECTIONS: Solve the following problems:

1. If you purchase your bus/rail pass for $39 at DMA and the actual cost is $42, what is the percent discount? 7%

2. Your light rail pass is $39 a month. In that month you traveled 22 days to and from work. If you had paid $2.20 each day what would have your spent?

$48.40

How much did you save with your pass? $9.40

3. In June, Jane went to work 20 days and used her pass 6 other round trips on the bus. Her monthly bus pass was $39. Her usual fare would be $2.50 a round trip. How much did she save with her pass? $26.00

4. Bob had a pass for July but was ill and only used the pass for work, and only worked 16 days. If the pass was $39 did he save money or lose it?

$2 20

DECIMAL PROBLEM

COMPETENCY: Solving two operation regular and overtime word problems.

OBJECTIVE: To be able to solve two operation word problems.

1. In one week, Tom worked 40 hours and 13 hours overtime. what was his total pay if his hourly wage was $6.50?
2. Tammy worked 40 hours and 16 hours overtime. what washer total pay for the week if her hourly wage was $8.30?
3. Josh had 40 hours and 2.5 hours overtime on his time card. What was his pay for that week if his hourly wage was $6.80?
4. Tim worked 80 hours and 5.5 hours of overtime at $7.20 an hour for two weeks?
5. In a month John accumulated 4 - 40 hour weeks at $5.6 an hour. He also accrued 16.5 hours of overtime. What was his gross pay for the month?

Count/hour	Standard	%	Yes or No Bonus	No. of 1,000 Above
7600	7000			
13500	14000			
17500	15000			
8800	8000			
7800	7500			
12000	11000			
13000	12450			
17000	16900			
15500	10500			
15600	15600			

Which jobs qualified for the bonus of $5?

Which qualified for $'1 or more at 1,000 over standard?

Decimal Problem

~~TOTAL PAY~~

COMPETENCY: Solving two operation regular and overtime word problems.

OBJECTIVE: To be able to solve two operation word problems.

1. In one week, Tom worked 40 hours and 13 hours overtime. what was his total pay if his hourly wage was $6.50? $386.75

2. Tammy worked 40 hours and 16 hours overtime. what washer total pay for the week if her hourly wage was $8.30? $ 531.20

3. Josh had 40 hours and 2.5 hours overtime on his time card. What was his pay for that week if his hourly wage was $6.80? $297.50

4. Tim worked 80 hours and 5.5 hours of overtime at $7.20 an hour for two weeks?

   $635.40

5. In a month John accumulated 4 - 40 hour weeks at $5.6 an hour. He also accrued 16.5 hours of overtime. What was his gross pay for the month?

   $1034.60

Count/hour	Standard	%	Yes or No Bonus	No. of 1,000 Above
7600	7000	108%	no	no
13500	14000	96%	no	no
17500	15000	116%	yes	1,000
8800	8000	110%	yes	no
7800	7500			
12000	11000	104%	no	no
13000	12450	109%	no	no
17000	16900	100%	no	no
15500	10500	147%	yes	3950 above
15600	15600	100%	no	no

Which jobs qualified for the bonus of $5?

3,4

Which qualified for $1 or more at 1,000 over standard?

#3 1- 1,000
#9 3950

AVERAGES

COMPETENCY: Able to calculate averages.

OBJECTIVE: To be able to find averages.

DIRECTIONS: Find average and round to the nearest whole number:

1. In January you worked 14 hours of overtime, in February 16 hours, in March 30, and in April 18. What was your average number of hours of overtime in those months?

2. Your pay for the last month was $256, $283, $295 and $230. What was your average pay check?

3. The number of new employees hired this year is:

January	6	July	6
February	2	August	0
March	3	September	1
April	6	October	3
May	7	November	4
June	8	December	5

What was the average number hired in a month?

4. You spent this amount on lunches this week: $6.52, $7.03, $4.98, $6.07, $5.65. What was the average cost of lunch this week?

5. The six employees in your group are 21, 36, 19, 27, 42 and 30. What is the average age?

AVERAGES

COMPETENCY: Able to calculate averages.

OBJECTIVE: To be able to find averages.

DIRECTIONS: Find average and round to the nearest whole number:

1. In January you worked 14 hours of overtime, in February 16 hours, in March 30, and in April 18. What was your average number of hours of overtime in those months?

19.5 hours

2. You pay for the last month was $256, $283, $295 and $230. What was your average pay check?

$266

3. The number of new employees hired this year is:

January	6	July	6
February	2	August	0
March	3	September	1
April	6	October	3
May	7	November	4
June	8	December	5

What was the average number hired in a month?

4.25

4. You spent this amount on lunches this week: $6.52, $7.03, $4.98, $6.07, $5.65. What was the average cost of lunch this week? $6.05

5. The six employees in your group are 21, 36, 19, 27, 42 and 30. What is the average age?

29

EARNINGS PROBLEMS

COMPETENCY:	Solving word problems.
OBJECTIVE:	To be able to solve word problems.
DIRECTIONS:	Find per hour or number of hours worked:

1. Jim earned $280 last week when he worked 40 hours. What is his hourly wage?

2. Josie worked 36 hours and earned $210. What is her hourly wage?

3. Millie earned $7.30/hour and worked 38 hours. What was her gross pay?

4. Al made $6.50 an hour and earned $260. How many hours did he work?

5. Allison made $7.25 an hour and earned $195.75. How many hours did she work?

6. Joe worked 40 hours for all four weeks last month. he earned 1296 that month. What is his hourly wage?

EARNINGS PROBLEMS

COMPETENCY: Solving word problems.

OBJECTIVE: To be able to solve word problems.

DIRECTIONS: Find per hour or number of hours worked:

1. Jim earned $280 last week when he worked 40 hours. What is his hourly wage?
   $7/hr
2. Josie worked 36 hours and earned $210. What is her hourly wage?
   $5.83/hr
3. Millie earned $7.30/hour and worked 38 hours. What was her gross pay?
   $277.40
4. Al made $6.50 an hour and earned $260. How many hours did he work?
   40 hrs.
5. Allison made $7.25 an hour and earned $195.75. How many hours did she work?
   27 hrs
6. Joe worked 40 hours for all four weeks last month. he earned 1296 that month. What is his hourly wage?
   $8.10/hr

TIME AND MONEY

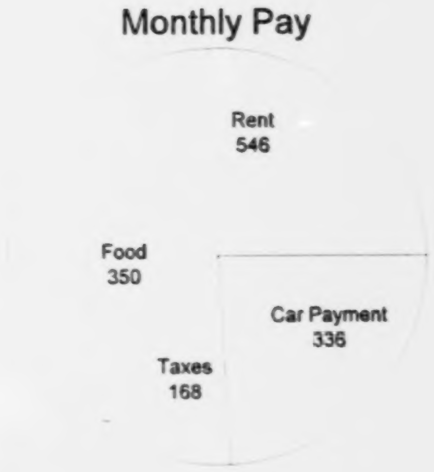
COMPETENCY: Interpreting from a circle graph.

OBJECTIVE: To be able to read and interpret graphs.

1. What is the total pay?

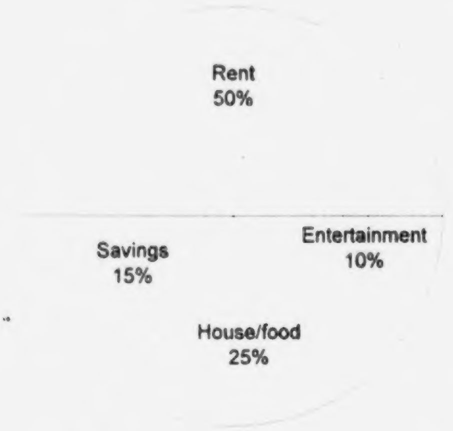
2. What % is spent on:

rent -
food -
taxes -
car payment -



1. Find the expense totals if monthly pay is $1,600.

10% - entertainment
15% - savings
25% - household/food
50% - rent/mortgage



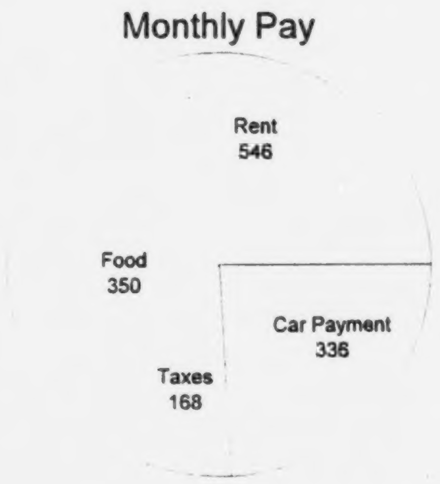
TIME AND MONEY

COMPETENCY:	Interpreting from a circle graph.
OBJECTIVE:	To be able to read and interpret graphs.

1. What is the total pay? $1,400.00

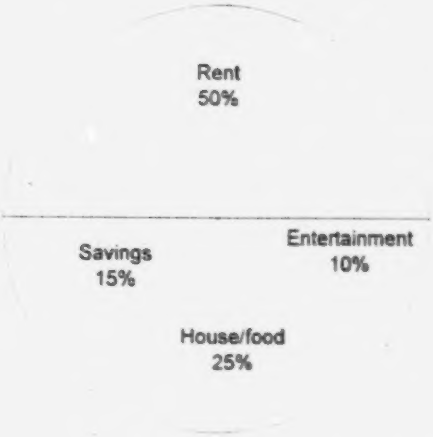
2. What % is spent on:

   rent - 39%
   food - 25%
   taxes - 12%
   car payment - 24%



1. Find the expense totals if monthly pay is $1,600.

10% - entertainment 160
15% - savings 240
25% - household/food 400
50% - rent/mortgage 800



COMPETENCY:	Solve problems using decimals
OBJECTIVE:	To understand net pay.
DIRECTIONS:	Listed below are the earnings and deductions from employers' pay checks. What is each employee's net pay?

Vocabulary:

Gross Pay:	Total amount earned during the pay period.
Deductions:	The amounts taken out of the gross pay.
Net Pay:	The amounts remaining after the deductions are taken out.

Name	Gross Pay	Federal Tax	Social Security Tax	Maryland Tax	Health Insurance	Total Deduct.	Net Pay
Egbert	275.00	25.60	23.20	14.78	6.50		
Jones	315.00	27.86	24.08	15.06	7.25		
Smith	286.90	26.82	23.75	14.92	6.85		
Doe	356.36	29.08	25.63	15.66	7.25		
Buch	326.04	28.95	25.93	15.98	7.25		
Johnson		30.50	26.08	14.20	6.85		243.28
Piney		31.06	27.30	13.75	6.50		261.70
Mandel		25.35	23.26	12.72	6.85		203.45

COMPETENCY: Solve problems using decimals

OBJECTIVE: To understand net pay.

DIRECTIONS: Listed below are the earnings and deductions from employers' pay checks. What is each employee's net pay?

Vocabulary:
Gross Pay: Total amount earned during the pay period.
Deductions: The amounts taken out of the gross pay.
Net Pay: The amounts remaining after the deductions are taken out.

Name	Gross Pay	Federal Tax	Social Security Tax	Maryland Tax	Health Insurance	Total Deduct.	Net Pay
Egbert	275.00	25.60	23.20	14.78	6.50	70.08	204.92
Jones	315.00	27.86	24.08	15.06	7.25	74.25	240.
Smith	286.90	26.82	23.75	14.92	6.85	72.34	214.56
Doe	356.36	29.08	25.63	15.66	7.25	77.62	278.74
Buch	326.04	28.95	25.93	15.98	7.25	78.11	247.93
Johnson	320.91	30.50	26.08	14.20	6.85	77.65	243.28
Piney	340.31	31.06	27.30	13.75	6.50	78.61	261.70
Mandel	271.63	25.35	23.26	12.72	6.85	68.18	203.45

HEALTH INSURANCE

COMPETENCY: Solving word problems.

Employer pays 50/50 with employee for individual plan.

Sample costs:

Plan	Individual	Family
HMO	650	4608
Custom	2150	7200
Preferred	956	5070

1. Mr. Jones chooses HMO for the individual. He pays 50%. What does he pay? What is his cost per pay period (assume 50 pays)?

2. Mrs. Smith chooses the family custom plan. The company pays 50% of the individual rate. What is their contribution? What s left for Mrs. Smith to pay? Over 50 paychecks, what is her cost per paycheck?

3. Mr. Down chooses individual preferred. What is his yearly contribution? What is his weekly cost?

4. Mrs. Johnston chooses family preferred. The company pays 50% of the individual rate. What is her responsibility? What will she pay per pay?

(math.wpd)

HEALTH INSURANCE

COMPETENCY: Solving word problems.

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Sample costs:

Plan	Individual	Family
HMO	650	4608
Custom	2150	7200
Preferred	956	5070

1. Mr. Jones chooses HMO for the individual. He pays 50%. What does he pay? What is his cost per pay period (assume 50 pays)? a) 325
   b) $6.50/pay
2. Mrs. Smith chooses the family custom plan. The company pays 50% of the individual rate. What is their contribution? What s left for Mrs. Smith to pay? Over 50 paychecks, what is her cost per paycheck? a) 1075 c) 122.50
   b) 6125
3. Mr. Down chooses individual preferred. What is his yearly contribution? What is his weekly cost? a) $478
   b) $9.56/week
4. Mrs. Johnston chooses family preferred. The company pays 50% of the individual rate. What is her responsibility? What will she pay per pay?
   a) $4592
   b) $91.84

(math.wpd)

COMPETENCY: Calculation of time worked.

OBJECTIVE: To be able to calculate time worked.

EMPLOYEE ACTIVITY
TIME CARDS

Name	In	Out	In	Out	Time Worked
Jones	6:56	11:31	11:56	15:56	
Smith	6:50	11:34	11:59	16:34	
Boone	6:48	11:31	11:56	17:05	
Braxton	6:59	11:31	11:59	15:02	
White	6:35	11:40	12:04	15:15	

COMPETENCY: Calculation of time worked.

OBJECTIVE: To be able to calculate time worked.

EMPLOYEE ACTIVITY
TIME CARDS

Name	In	Out	In	Out	Time Worked
Jones	6:56	11:31	11:56	15:56	8.75
Smith	6:50	11:34	11:59	16:34	9.59
Boone	6:48	11:31	11:56	17:05	10.32
Braxton	6:59	11:31	11:59	15:02	8.15
White	6:35	11:40	12:04	15:15	8.16

ANALTYICAL PROBLEM SOLVING

COMPETENCY: Solve word problems.

OBJECTIVES: To solve a word problem using analytical reasoning.

DIRECTIONS: Using the clues, determine the positions held by each person.

SITUATION: Betty Sevald, Tom Arnold, Ed Hulbert, Sidney Cross, and Ted Tucker comprise the personnel in the DMA management office. They hold the positions of: clerk, stenographer, manager, accountant, and attorney, but not respectively.

CLUES:

1. The stenorgrapher bandaged the attonery's finger when he cut it while using the former's nail file.
2. While the manager and the attonery were out of town, the accountant docked Tucker and Cross a half day's pay for taking the afternoon off to go to an Orioles game.
3. The accountant is a fine bridge player and Arnold admires his ability.
4. Tucker invited the stenographer to lunch, but his invitation was not accepted.

TASK: Determine the position held by each of the above personnel.

wp51/icebrkl

ANALTYICAL PROBLEM SOLVING

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2. While the manager and the attonery were out of town, the accountant docked Tucker and Cross a half day's pay for taking the afternoon off to go to an Orioles game.
3. The accountant is a fine bridge player and Arnold admires his ability.
4. Tucker invited the stenographer to lunch, but his invitation was not accepted.

TASK: Determine the position held by each of the above personnel.

ANSWER

MANGER — BETTY SEVALD
ATTURNEY — TOM ARNOLD
ACCOUNTANT — ED HULBERT
STENOGRAPHER — SIDNEY CROSS
CLERK — TED TUCKER

wp51/icebrk1

ANALYTICAL REASONING

COMPETENCY: Analytical Reasoning

OBJECTIVES: Use analytical reasoning to solve word problems.

DIRECTIONS: Using the clues below, determine who the suspect is that the police are looking for. Give the name, address, hair color, suit color, and make of car for the suspect as a minimum.

1. The suspect lives in one of the 5 houses on Spruce street.

2. Mr. Hopewell lives in 704.

3. Mr. Smith always wears a tan suit.

4. The man in the black suit has red hair.

5. Mr Holman has gray hair.

6. Mr. Jones lives in 700 and drives a Ford.

7. The man in 706 is bald.

8. The man who lives in the house next to the man with a Cadillac, wears a blue suit.

9. The man in 708 has brown hair.

10. One man always wears a gray suit and drives a Pacer.

11. The man in 704 drives an Impala.

12. The man in the blue suit has black hair and his initials are J.H.

13. The suspect wears a brown suit and does not drive a Lincoln.

14. Mr. Higgins doesn't drive a Pacer, nor does he live in 702.

15 The man in 702 always wears a suit to match his hair.

wp51/icebrk2

ANALYTICAL REASONING

COMPETENCY: Analytical Reasoning

OBJECTIVES: Use analytical reasoning to solve word problems.

DIRECTIONS: Using the clues below, determine who the suspect is that the police are looking for. Give the name, address, hair color, suit color, and make of car for the suspect as a minimum.

1. The suspect lives in one of the 5 houses on Spruce street.
2. Mr. Hopewell lives in 704.
3. Mr. Smith always wears a tan suit.
4. The man in the black suit has red hair.
5. Mr Holman has gray hair.
6. Mr. Jones lives in 700 and drives a Ford.
7. The man in 706 is bald.
8. The man who lives in the house next to the man with a Cadillac, wears a blue suit.
9. The man in 708 has brown hair.
10. One man always wears a gray suit and drives a Pacer.
11. The man in 704 drives an Impala.
12. The man in the blue suit has black hair and his initials are J.H.
13. The suspect wears a brown suit and does not drive a Lincoln.
14. Mr. Higgins doesn't drive a Pacer, nor does he live in 702.

15 The man in 702 always wears a suit to match his hair.

wp51/icebrk2

SOLUTION TO PUZZLE

House #	700	702	704	706	708
NAME	JONES	HOLMAN	Hopewell	Higgins	SMITH
AUTO	FORD	PACER	Impalla	Cadillac	Lincol.
HAIR	RED	GRAY	BLACK	BaLd	BROWN
Suit	BLACK	GRAY	BLue	BROWN	TAN
				suspect	

① Use clues 2, 6, 7, 9, 11, & place in house

② Make layout as above

③ Make following lists

Name   auto   Hair   Suit

④ Continuing through clues lining out items on lists as you move to layout.

⑤ You end up with Higgins & Smith could be in 6 or 8 (406, 408) make list for each and add auto, hair, & suit. eventually Smith has brown hair so he must be in 708.

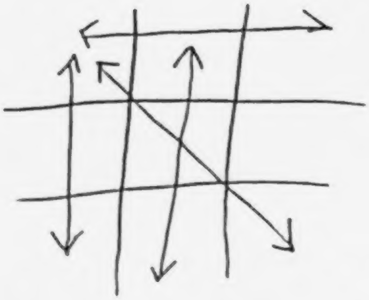
BEST COPY AVAILABLE

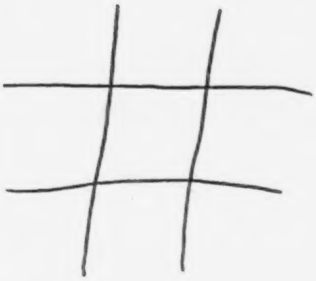
MATH - ADDITION PROBLEM

COMPETENCY: MATH - ADDITION

OBJECTIVES: Solve a Tic-Tac-Toe MATH Addition problem.

DIRECTIONS: Using the digits 1 through 9 only once, fill in the blanks so that the total in any direction is 15.





wp51/tictacto

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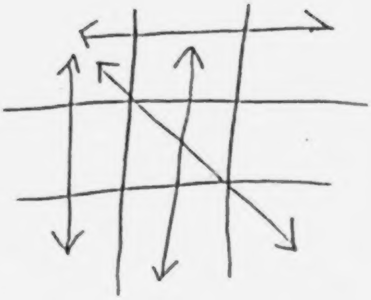


4	3	8
9	5	1
2	7	6

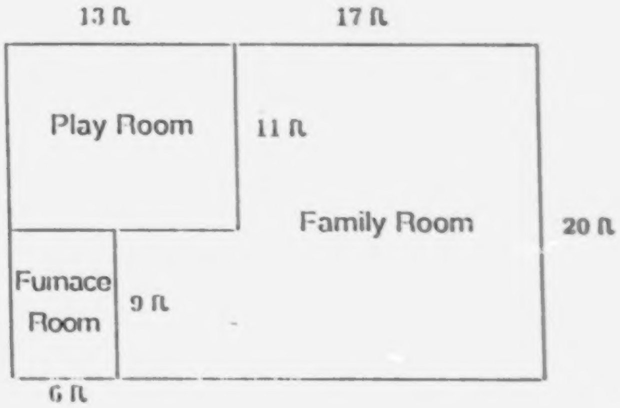
wp51/tictacto

COMPUTING AREA & PERIMETER

COMPETENCY: Computing area and perimeter on a diagram.

OBJECTIVES: To determine the area and/or perimeter of a rectangle.

DIRECTIONS: Using the diagram below, compute the area and/or perimeter for the specific questions.



1. What are the dimensions (length & width) of the entire basement? What is its entire area?

2. How many walls does the family room have?

3. Find the perimeter of the furnace room.

4. Find the area of the play room.

5. What is the perimeter of the family room?

6. Draw a dotted line which breaks the family room into two rectangles.

7. Using the rectangles from #6 above, find the area of the family room.

wp51/areal

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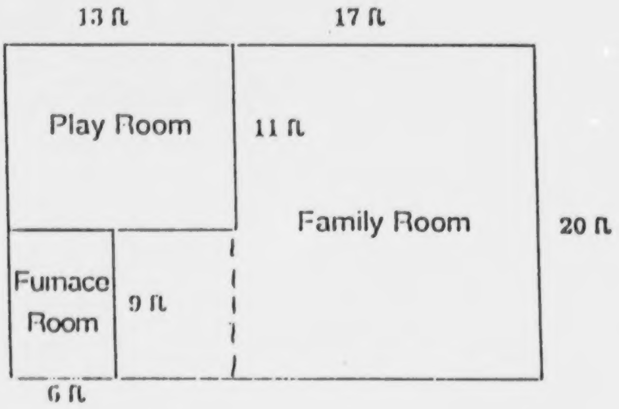


1. What are the dimensions (length & width) of the entire basement? What is its entire area? 30X20 FT, 600 SQF

2. How many walls does the family room have? 6

3. Find the perimeter of the furnace room. 30 FT

4. Find the area of the play room. 143 SQ FT

5. What is the perimeter of the family room? 84 FT

6. Draw a dotted line which breaks the family room into two rectangles.

7. Using the rectangles from #6 above, find the area of the family room.

403 SQFT

wp51/areal

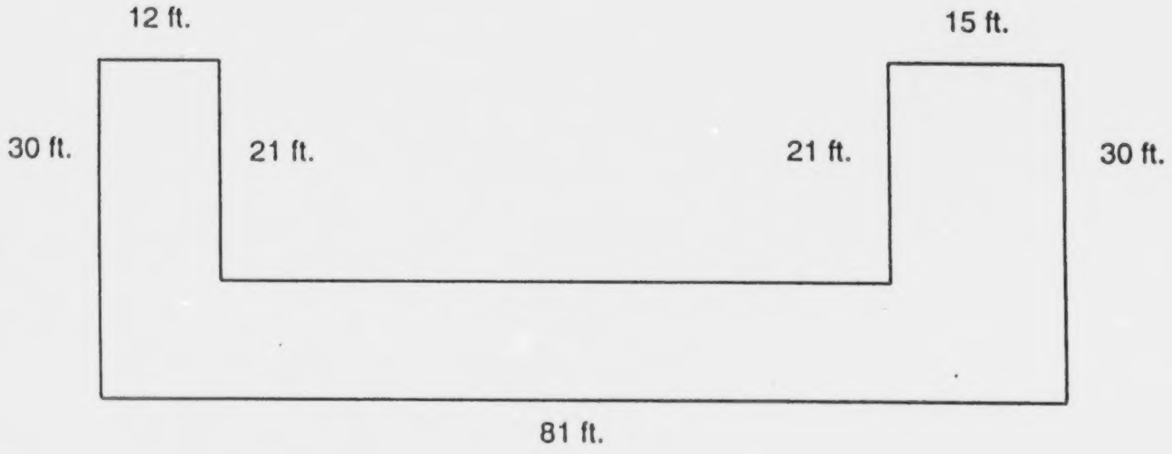
MATH - ESSAY PROBLEMS

COMPETENCY: Solve MATH essay problems.

OBJECTIVES: Use math procedures to solve an essay problem.

DIRECTIONS: Solve the following math problems from the essay information available.

The Dr. Martin Luther King, Jr. School is completing an asbestos removel and a major renovation of the building. Part of this major renovation includes new tiling for their hallways in a wing of the third floor. Below is a diagram which shows the dimensions of the third floor. The floor in this hallway can be either covered with Tile "A" which looks better and costs $.08 per square foot, or Tile "B" which costs $.70 per square yard.



1. Which tile should the school use and why?

2. What is the area (in square feet) of the entire third floor?

3. What is the perimeter of the third floor?

wp51/area2

MATH - ESSAY PROBLEMS

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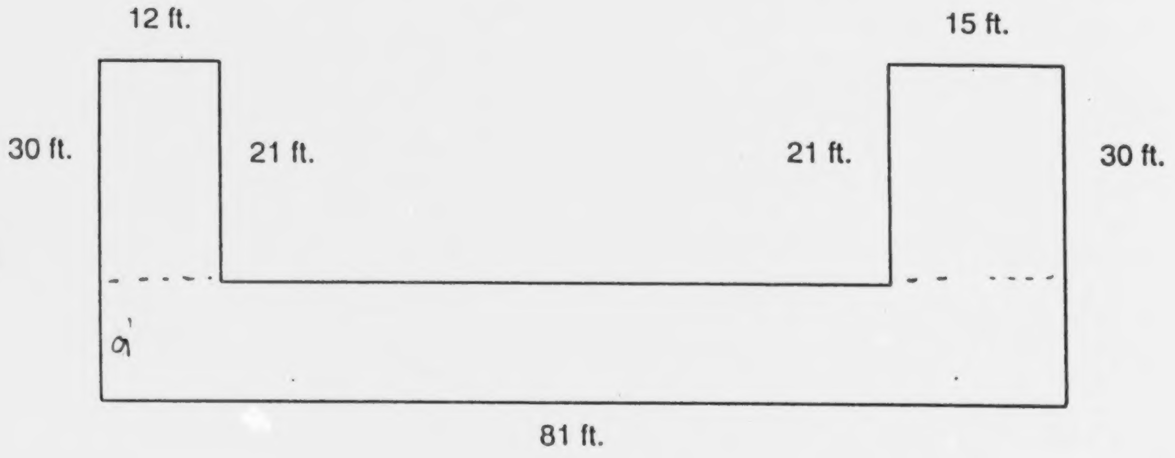
DIRECTIONS: Solve the following math problems from the essay information available.

The Dr. Martin Luther King, Jr. School is completing an asbestos removel and a major renovation of the building. Part of this major renovation includes new tiling for their hallways in a wing of the third floor. Below is a diagram which shows the dimensions of the third floor. The floor in this hallway can be either covered with Tile "A" which looks better and costs $.08 per square foot, or Tile "B" which costs $.70 per square yard.



1. Which tile should the school use and why? TILE A - LESS COST - .08 Per SQ FT

2. What is the area (in square feet) of the entire third floor? 1296 SQ FT

3. What is the perimeter of the third floor? 264 FT

wp51/area2

WRITING

COMPETENCY: Writing.

OBJECTIVES: To write two or more paragraphs.

DIRECTIONS: Pick one topic from below and write two or more paragraphs. You may use the back side of this paper if necessary.

1. DESCRIBE THE JOB OR FIELD OF WORK YOU THINK YOU WOULD LIKE BEST. WHAT ABOUT IT WOULD BEST SUIT YOU AND YOUR INTEREST?
2. DESCRIBE THE GREATEST CONERNS YOU HAVE FOR YOUR CHILDREN'S FUTURE.
3. DESCRIBE YOUR PAST EDUCATION - WHAT FACTORS MAKE IT THAT WAY?

wp51/writing

WRITING

COMPETENCY: Writing.

OBJECTIVES: To write two or more paragraphs.

DIRECTIONS: Pick one topic from below and write two or more paragraphs. You may use the back side of this paper if necessary.

1. DESCRIBE THE JOB OR FIELD OF WORK YOU THINK YOU WOULD LIKE BEST. WHAT ABOUT IT WOULD BEST SUIT YOU AND YOUR INTEREST?
2. DESCRIBE THE GREATEST CONERNS YOU HAVE FOR YOUR CHILDREN'S FUTURE.
3. DESCRIBE YOUR PAST EDUCATION - WHAT FACTORS MAKE IT THAT WAY?

ANSWERS MAY VARY

wp51/writing

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To change an improper fraction into a whole number or a mixed number fraction

DIRECTIONS; Write each improper fraction as a whole number or as a mixed number (whole number plus a fraction)

1. 3/2 8/2 12/5 7/3 12/4

2. 9/3 15/4 11/3 17/2 21/6

3. 23/8 31/9 25/5 37/7 30/10

wp51/fracl

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To change an improper fraction into a whole number or a mixed number fraction

DIRECTIONS; Write each improper fraction as a whole number or as a mixed number (whole number plus a fraction)

1.	3/2	8/2	12/5	7/3	12/4
	$1\frac{1}{2}$	4	$2\frac{2}{5}$	$2\frac{1}{3}$	3
2.	9/3	15/4	11/3	17/2	21/6
	3	$3\frac{3}{4}$	$3\frac{2}{3}$	$8\frac{1}{2}$	$3\frac{1}{2}$
3.	23/8	31/9	25/5	37/7	30/10
	$2\frac{7}{8}$	$3\frac{4}{9}$	5	$5\frac{2}{7}$	3

MATH - FRACTIONSDS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To change each number or mixed number into an improper fraction

DIRECTIONS: Write each whole number or mixed number as an improper fraction.

1. 4 2 1/3 1 3/4 6 5/2

2. 4 3/5 9 2 11/12 7 5/6 15

3. 6 2/3 3 9/10 8 4/5 13 10 1/4

wp51/frac2

MATH - FRACTIONSDS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To change each number or mixed number into an improper fraction

DIRECTIONS: Write each whole number or mixed number as an improper fraction.

1.	4	2 1/3	1 3/4	6	5 1/2
	$\frac{4}{1}$	$\frac{7}{3}$	$\frac{7}{4}$	$\frac{6}{1}$	$\frac{4}{2}$
2.	4 3/5	9	2 11/12	7 5/6	15
	$\frac{23}{5}$	$\frac{9}{1}$	$\frac{35}{12}$	$\frac{47}{6}$	$\frac{15}{1}$
3.	6 2/3	3 9/10	8 4/5	13	10 1/4
	$\frac{20}{3}$	$\frac{39}{10}$	$\frac{44}{5}$	$\frac{13}{1}$	$\frac{41}{4}$

MATH - FRACTIONSS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To change a fraction into a higher equal fraction

DIRECTIONS: Raise the following fractions to a higher equal fraction given a new denominator.

1. 1/2 = ?/8   1/3 = ?/6   1/4 = ?/8   2/3 = ?/9   3/4 = ?/12

2. 5/6 = ?/24   3/4 = ?/8   2/3 = ?/12   5/7 = ?/14   2/6 = ?/18

3. 2/3 = ?/15   2/5 = ?/30   5/14 = ?/28   11/12 = ?/36   4/7 = ?/28

wp51/frac3

MATH - FRACTIONSS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To change a fraction into a higher equal fraction

DIRECTIONS: Raise the following fractions to a higher equal fraction given a new denominator.

1.	1/2 = ?/8	1/3 = ?/6	1/4 = ?/8	2/3 = ?/9	3/4 = ?/12
	$\frac{4}{8}$	$\frac{2}{6}$	$\frac{2}{8}$	$\frac{6}{9}$	$\frac{9}{10}$
2.	5/6 = ?/24	3/4 = ?/8	2/3 = ?/12	5/7 = ?/14	2/6 = ?/18
	$\frac{20}{24}$	$\frac{6}{8}$	$\frac{8}{12}$	$\frac{10}{14}$	$\frac{6}{18}$
3.	2/3 = ?/15	2/5 = ?/30	5/14 = ?/28	11/12 = ?/36	4/7 = ?/28
	$\frac{10}{15}$	$\frac{12}{30}$	$\frac{10}{28}$	$\frac{33}{36}$	$\frac{16}{28}$

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To reduce each fraction to its lowest term

DIRECTIONS: Reduce each fraction to their lowest termss.

1. 3/9 = 4/8 = 4/6 = 6/9 = 6/8 =

2. 4/10 = 8/12 = 4/16 = 10/14 = 12/16 =

3. 12/20 = 8/10 = 8/32 = 10/24 = 28/64 =

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To reduce each fraction to its lowest term

DIRECTIONS: Reduce each fraction to their lowest termss.

1. 3/9 = $\frac{1}{3}$ 4/8 = $\frac{1}{2}$ 4/6 = $\frac{2}{3}$ 6/9 = $\frac{2}{3}$ 6/8 = $\frac{3}{4}$

2. 4/10 = $\frac{2}{5}$ 8/12 = $\frac{2}{3}$ 4/16 = $\frac{1}{4}$ 10/14 = $\frac{5}{7}$ 12/16 = $\frac{3}{4}$

3. 12/20 = $\frac{3}{5}$ 8/10 = $\frac{4}{5}$ 8/32 = $\frac{1}{4}$ 10/24 = $\frac{5}{12}$ 28/64 = $\frac{7}{16}$

wp51/frac4

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To add like fraction and reduce to their lowest term where necessary

DIRECTIONS: Add each of the like fractions and simplify were necessary.

1. 1/3 + 1/3   2/4 + 1/4   5/8 + 2/8   3/6 + 1/6   5/10 + 3/10

2. 3/4 + 1/4   2/3 + 1/3   4/8 + 2/8   7/12 + 3/12   5/6 + 1/6

3. 4/5 + 3/5   7/8 + 4/8   3/4 + 2/4   6/8 + 4/8   8/10 + 6/10

wp51/frac5

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To add like fraction and reduce to their lowest term where necessary

DIRECTIONS: Add each of the like fractions and simplify were necessary.

1.	1/3 + 1/3	2/4 + 1/4	5/8 + 2/8	3/6 + 1/6	5/10 + 3/10
	2/3	3/4	$\frac{7}{8}$	2/3	4/5
2.	3/4 + 1/4	2/3 + 1/3	4/8 + 2/8	7/12 + 3/12	5/6 + 1/6
	$\frac{4}{4}=1$	$\frac{3}{3}=1$	$\frac{3}{4}$	$\frac{5}{6}$	$\frac{6}{6}=1$
3.	4/5 + 3/5	7/8 + 4/8	3/4 + 2/4	6/8 + 4/8	8/10 + 6/10
	$1\frac{2}{5}$	$1\frac{3}{8}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{2}{5}$

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To add unlike fractions by finding the largest common denominator

DIRECTIONS: Add and simplify each problems using the largest denominator as the common denominator.

1. 1/2 + 1/4   2/3 + 1/6   3/4 + 1/8   1/2 + 3/8   3/8 + 1/4

2. 2/4 + 1/8   2/6 + 1/2   5/8 + 1/4   3/6 + 1/3   1/2 + 2/10

3. 11/12 + 1/6   5/8 + 1/2   3/4 + 5/12   4/5 + 7/10   5/6 + 2/3

wp51/frac6

MATH - FRACTIONS

COMPETENCY:	MATH - FRACTIONS	
OBJECTIVES:	To add unlike fractions by finding the largest common denominator	
DIRECTIONS:	Add and simplify each problems using the largest denominator as the common denominator.	

1.	1/2 + 1/4	2/3 + 1/6	3/4 + 1/8	1/2 + 3/8	3/8 + 1/4
	3/4	5/6	7/8	7/8	5/8
2.	2/4 + 1/8	2/6 + 1/2	5/8 + 1/4	3/6 + 1/3	1/2 + 2/10
	5/8	5/6	7/8	5/6	7/10
3.	11/12 + 1/6	5/8 + 1/2	3/4 + 5/12	4/5 + 7/10	5/6 + 2/3
	$1\frac{1}{12}$	$1\frac{1}{8}$	$1\frac{1}{6}$	$1\frac{1}{2}$	$1\frac{1}{2}$

wp51/frac6

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To add unlike fractions by finding a common denonimator; reduce to lowest term where necessary

DIRECTIONS: Add each set of fractions using the lowest common denominator; reduce to lowest term where necessary

1. 1/3 + 1/4   1/4 + 1/5   1/3 + 1/5   1/2 + 1/3   1/2 + 1/5

2. 3/8 + 1/3   1/2 + 3/7   3/5 + 1/4   5/8 + 1/5   5/9 + 1/4

3. 3/4 + 2/3   7/10 + 3/4   5/9 + 1/2   5/8 + 3/5   5/6 + 3/5

wp51/frac7

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To add unlike fractions by finding a common denonimator; reduce to lowest term where necessary

DIRECTIONS: Add each set of fractions using the lowest common denominator; reduce to lowest term where necessary

1.	1/3 + 1/4	1/4 + 1/5	1/3 + 1/5	1/2 + 1/3	1/2 + 1/5
	$\frac{7}{12}$	$\frac{9}{20}$	$\frac{8}{15}$	$\frac{5}{6}$	$\frac{7}{10}$
2.	3/8 + 1/3	1/2 + 3/7	3/5 + 1/4	5/8 + 1/5	5/9 + 1/4
	$\frac{17}{24}$	$\frac{13}{14}$	$\frac{17}{20}$	$\frac{33}{40}$	$\frac{29}{36}$
3.	3/4 + 2/3	7/10 + 3/4	5/9 + 1/2	5/8 + 3/5	5/6 + 3/5
	$1\frac{5}{12}$	$1\frac{9}{20}$	$1\frac{1}{18}$	$1\frac{9}{40}$	$1\frac{13}{30}$

wp51/frac7

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To add, subtract and multiply fractions using estimation

DIRECTIONS: Estimate an answer for each fraction problem

Note: If the fraction is less than 1/2, drop it. If the fraction is more than 1/2, round to the next higher whole number.

1. 9 2/3 + 7 1/4   7 1/8 + 3 2/3   16 7/10 + 9 7/8

2. 12 1/2 - 9 7/8   9 7/8 - 3 1/4   23 15/16 - 8 1/16

3. 8 3/4 X 7 1/2   5 1/3 X 4 4/5   14 X 10 1/4

wp51/frac8

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To add, subtract and multiply fractions using estimation

DIRECTIONS: Estimate an answer for each fraction problem

Note: If the fraction is less than 1/2, drop it. If the fraction is more than 1/2, round to the next higher whole number.

1.	9 2/3 + 7 1/4	7 1/8 + 3 2/3	16 7/10 + 9 7/8
	17	11	27
2.	12 1/2 - 9 7/8	9 7/8 - 3 1/4	23 15/16 - 8 1/16
	3	7	16
3.	8 3/4 X 7 1/2	5 1/3 X 4 4/5	14 X 10 1/4
	72	25	140

wp51/frac8

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To solve word problems that involve adding of fractions

DIRECTIONS: Solve the following word problems use fraction addition skills. Simplify all answers were necessary.

1. During Saturday;s 12 mile hike, Jan walked 5 miles in the first hour. She then walked 3 more miles during the next hour. What fraction of the total hike had Jan walked at this point?

2. Accordding to the instructions, Alan is to mix 5/8 ounce of epoxy with 3/8 ounce of hardener. What will be the combined weight of the epoxy and hardener?

3. Frieda ordered carpet that is 3/4 inch thick. The accompanying pad is 3/4 inch thick. How thick will the carpet and pad be when placed together on the floor?

4. Anne lives 7/8 of a mile from the swimming pool. Anne's friend, Janet, lives 1/4 mile farther from the pool than Anne. How far does Janet live from the pool?

5. On the first trip to the construction site, Martin hauled 4/5 ton of gravel. On each of his next two trips he hauled 2/3 ton. How much gravel did Martin haul in these three trips?

6. Jerry ran 2 3/4 miles on Monday; 2 1/4 miles on Wednesday; and 4 3/4 miles on Friday. How many total miles did Jerry run?

wp51/frac9

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To solve word problems that involve adding of fractions

DIRECTIONS: Solve the following word problems use fraction addition skills. Simplify all answers were necessary.

1. During Saturday;s 12 mile hike, Jan walked 5 miles in the first hour. She then walked 3 more miles during the next hour. What fraction of the total hike had Jan walked at this point? 2/3 mile

2. Accordding to the instructions, Alan is to mix 5/8 ounce of epoxy with 3/8 ounce of hardener. What will be the combined weight of the epoxy and hardener? $\frac{8}{8}$ = 1 oz

3. Frieda ordered carpet that is 3/4 inch thick. The accompanying pad is 3/4 inch thick. How thick will the carpet and pad be when placed together on the floor? 1 $\frac{1}{2}$ inch

4. Anne lives 7/8 of a mile from the swimming pool. Anne's friend, Janet, lives 1/4 mile farther from the pool than Anne. How far does Janet live from the pool? 1 $\frac{1}{8}$ miles

5. On the first trip to the construction site, Martin hauled 4/5 ton of gravel. On each of his next two trips he hauled 2/3 ton. How much gravel did Martin haul in these three trips? 2 2/15 Tons

6. Jerry ran 2 3/4 miles on Monday; 2 1/4 miles on Wednesday; and 4 3/4 miles on Friday. How many total miles did Jerry run? 9 $\frac{3}{4}$ miles

wp51/frac9

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OJBECTIVES: To subtract like fractions

DIRECTIONS: Subtract the following like fractions; reduce the fractions to their lowest term where necessary

1. 2/3 - 1/3   3/4 - 2/4   5/8 - 2/8   4/5 - 2/5

2. 3/4 - 1/4   5/6 - 1/6   7/8 - 3/8   11/12 - 3/12

3. 9/8 - 3/8   5/4 - 3/4   15/12 - 5/12   5/3 - 2/3

wp51/frac10

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OJBECTIVES: To subtract like fractions

DIRECTIONS: Subtract the following like fractions; reduce the fractions to their lowest term where necessary

1.	2/3 - 1/3	3/4 - 2/4	5/8 - 2/8	4/5 - 2/5
	$\frac{1}{3}$	$\frac{1}{4}$	3/8	$\frac{2}{5}$
2.	3/4 - 1/4	5/6 - 1/6	7/8 - 3/8	11/12 - 3/12
	$\frac{1}{2}$	$\frac{2}{3}$	$\frac{1}{2}$	$\frac{2}{3}$
3.	9/8 - 3/8	5/4 - 3/4	15/12 - 5/12	5/3 - 2/3
	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{5}{6}$	$\frac{3}{3} = 1$

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To subtract unlike fractions by finding the largest common denominator

DIRECTIONS: Find the largest common denominator of the following fractions, then subtract. Reduce your answer to its lowest term if necessary

1. 1/2 - 1/4   3/4 - 3/8   5/6 - 1/2   7/8 - 3/4

2. 11/12 - 1/6   9/10 - 3/5   13/16 - 3/4   13/20 - 2/5

3. 3/4 - 2/3   1/3 - 1/5   5/6 - 1/4   2/3 - 3/8

wp51/frac11

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To subtract unlike fractions by finding the largest common denominator

DIRECTIONS: Find the largest common denominator of the following fractions, then subtract. Reduce your answer to its lowest term if necessary

1. 1/2 - 1/4 3/4 - 3/8 5/6 - 1/2 7/8 - 3/4

$\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{3}$ $\frac{1}{8}$

2. 11/12 - 1/6 9/10 - 3/5 13/16 - 3/4 13/20 - 2/5

3/4 3/10 $\frac{1}{16}$ $\frac{1}{4}$

3. 3/4 - 2/3 1/3 - 1/5 5/6 - 1/4 2/3 - 3/8

$\frac{1}{12}$ $\frac{2}{15}$ $\frac{7}{12}$ $\frac{7}{24}$

wp51/frac11

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To subtract unlike mixed number fractions

DIRECTIONS: Find the common denominator for the unlike fractions; subtract the fractions; subtract the whole numbers; reduce the answer to lowest term where necessary

1. 1 5/6 - 2/3   1 5/8 - 1/4   2 5/6 - 1/2

2. 6 7/8 - 1 3/4   8 5/6 - 4 2/3   9 11/12 - 3 5/6

3. 4 7/8 - 3/4   3 7/10 - 1/2   5 2/3 - 3/5

wp51/frac12

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To subtract unlike mixed number fractions

DIRECTIONS: Find the common denominator for the unlike fractions; subtract the fractions; subtract the whole numbers; reduce the answer to lowest term where necessary

1.	1 5/6 - 2/3	1 5/8 - 1/4	2 5/6 - 1/2
	$1\frac{1}{6}$	$1\frac{3}{8}$	$2\frac{1}{3}$
2.	6 7/8 - 1 3/4	8 5/6 - 4 2/3	9 11/12 - 3 5/6
	$5\frac{1}{8}$	$4\frac{1}{6}$	$6\frac{1}{12}$
3.	4 7/8 - 3/4	3 7/10 - 1/2	5 2/3 - 3/5
	$4\frac{1}{8}$	$3\frac{1}{5}$	$5\frac{1}{15}$

wp51/frac12

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To subtract fractions from whole number through regrouping ((borrowing))

DDIRECTIONS: Change the whole number to a like fraction; subtract the fraction; reduce your answer to its lowest term where necessary

1. 1 - 3/4   1 - 5/8   1 - 7/16   1 - 1/3

2. 2 - 1/3   5 - 3/4   3 - 5/8   7 - 3/10

3. 4 - 3/5   9 - 2/3   8 - 7/8   7 - 7/10

wp51/frac13

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To subtract fractions from whole number through regrouping ((borrowing))

DDIRECTIONS: Change the whole number to a like fraction; subtract the fraction; reduce your answer to its lowest term where necessary

1.	1 - 3/4	1 - 5/8	1 - 7/16	1 - 1/3
	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{9}{16}$	$\frac{2}{3}$
2.	2 - 1/3	5 - 3/4	3 - 5/8	7 - 3/10
	$1\frac{2}{3}$	$4\frac{1}{4}$	$2\frac{3}{8}$	$6\frac{7}{10}$
3.	4 - 3/5	9 - 2/3	8 - 7/8	7 - 7/10
	$3\frac{2}{5}$	$8\frac{1}{3}$	$7\frac{1}{8}$	$6\frac{3}{10}$

wp51/frac13

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To mulitiply different sets of fractions

DIRECTIONS: Multiply the various sets of fractions; changing mixed numbered fractions into improper fractions first; use cross cancellation where possible; reduce all answers to their lowest terms where necessary

1. 1/3 X 1/2   1/4 X 1/4   2/3 X 1/5

2. 1/2 X 4   2/3 X 6   2 1/2 X 2/3

3. 3 1/2 X 2 2/3   4 1/4 X 1 3/4   1 1/2 X 1 5/8

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To mulitiply different sets of fractions

DIRECTIONS: Multiply the various sets of fractions; changing mixed numbered fractions into improper fractions first; use cross cancellation where possible; reduce all answers to their lowest terms where necessary

1. 1/3 X 1/2   1/4 X 1/4   2/3 X 1/5

$\frac{1}{6}$ $\frac{1}{16}$ $\frac{2}{15}$

2. 1/2 X 4   2/3 X 6   2 1/2 X 2/3

2   4 $1\frac{2}{3}$

3. 3 1/2 X 2 2/3   4 1/4 X 1 3/4   1 1/2 X 1 5/8

$9\frac{1}{3}$ $7\frac{7}{16}$ $2\frac{7}{16}$

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To solve word problems that involve multiplication of fractions.

DIRECTIONS: Solve the following word problems using multiplication of fraction skills

1. Yesterday, 7/8 inch of rain fell in Salem. Of this amount, 2/3 fell before noon. What fraction of an inch of rain fell in Salem yesterday before noon?

2. The weekend swimming race covers a distance of 3/4 mile. As part of a 3 member team, Marcia must swim 1/3 of this distance. How far must Marcia swim?

3. A cookie recipe calls for 1 2/3 cups of sugar. If you want to make only half a recipe of cookies, how much sugar should you use?

4. Raphael exercises for 1 1/4 hours on each of four days each week. How many total hours does Raphael exercise in these four days?

5. Lena, a jewelry maker, uses 3/16 ounce of gold for each ring she makes. How much gold does Lena need to make 30 rings?

6. Laura mixes 2/3 pint of thinner in each gallon of stain she uses. How much thinner will Laura need to thin 7 1/2 gallons of stain?

wp51/frac15

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To solve word problems that involve multiplication of fractions.

DIRECTIONS: Solve the following word problems using multiplication of fraction skills

1. Yesterday, 7/8 inch of rain fell in Salem. Of this amount, 2/3 fell before noon. What fraction of an inch of rain fell in Salem yesterday before noon?

   7/12 inch

2. The weekend swimming race covers a distance of 3/4 mile. As part of a 3 member team, Marcia must swim 1/3 of this distance. How far must Marcia swim?

   1/4 mile

3. A cookie recipe calls for 1 2/3 cups of sugar. If you want to make only half a recipe of cookies, how much sugar should you use?

   5/6 cup

4. Raphael exercises for 1 1/4 hours on each of four days each week. How many total hours does Raphael exercise in these four days?

   5 Hours

5. Lena, a jewelry maker, uses 3/16 ounce of gold for each ring she makes. How much gold does Lena need to make 30 rings?

   5 5/8 oz

6. Laura mixes 2/3 pint of thinner in each gallon of stain she uses. How much thinner will Laura need to thin 7 1/2 gallons of stain?

   5 PINTS

wp51/frac15

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To divide different sets of fractions

DIECTIONS: Solve the following problems using division of fractions skills; change mixed number fractions to improper fractions first; use cross cancellation where possible; reduce answers to lowest terms

1. 5/8 Divided by 1/2 3/4 Divided by 1/2 1/3 Divided by 3/8

2. 3/2 Divided by 6 11/2 Divided by 3 2/3 Divided by 5

3. 1 3/4 Divided by 4 8 Divided by 1 2/3

4. 6 1/4 Divided by 2 1/3 14 1/2 Divided by 2 1/3

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To divide different sets of fractions

DIECTIONS: Solve the following problems using division of fractions skills; change mixed number fractions to improper fractions first; use cross cancellation where possible; reduce answers to lowest terms

1. 5/8 Divided by 1/2 3/4 Divided by 1/2 1/3 Divided by 3/8

$1\frac{1}{4}$ $1\frac{1}{2}$ $\frac{8}{9}$

2. 3/2 Divided by 6 11/2 Divided by 3 2/3 Divided by 5

$\frac{1}{4}$ $1\frac{5}{6}$ $\frac{2}{15}$

3. 1 3/4 Divided by 4 8 Divided by 1 2/3

$\frac{7}{16}$ $4\frac{4}{5}$

4. 6 1/4 Divided by 2 1/3 14 1/2 Divided by 2 1/3

$2\frac{19}{28}$ $6\frac{3}{14}$

wp51/frac16

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To solve word problems using division of fractions

DIRECTIVES: Solve each of the following problems using division of fraction skills.

1. A paving crew has 7/8 of a mile of road to pave. If they can pave 1/16 mile per day, how many days will the job take?

2. Losing weight at the rate of 3 1/2 per month, how many months will it take for Claire to lose 24 1/2 pounds?

3. Christine, a jeweler, has 15/16 ounce of gold. She plans to make earrings that contain 5/64 ounce of gold. How many earrings can Christine make?

4. One centimeter is equal to about 2/5 inch. Approximately how many centimeters are in 2 3/5 inches?

5. How many 1/4 pound hamburgers can be made out of a 3 1/4 pound package of ground beef?

6. Jim must move 17 3/4 tons of gravel to a new construction site. The maximum his truck can carry is 1 2/3 tons. How many trips must Jim make to move all the gravel? Round your answer to the next whole number.

MATH - FRACTIONS

COMPETENCY: MATH - FRACTIONS

OBJECTIVES: To solve word problems using division of fractions

DIRECTIVES: Solve each of the following problems using division of fraction skills.

1. A paving crew has 7/8 of a mile of road to pave. If they can pave 1/16 mile per day, how many days will the job take?

14 DAYS

2. Losing weight at the rate of 3 1/2 per month, how many months will it take for Claire to lose 24 1/2 pounds?

7 MONTHS

3. Christine, a jeweler, has 15/16 ounce of gold. She plans to make earrings that contain 5/64 ounce of gold. How many earrings can Christine make?

12 EARRINGS

4. One centimeter is equal to about 2/5 inch. Approximately how many centimeters are in 2 3/5 inches?

$6\frac{1}{2}$ cm.

5. How many 1/4 pound hamburgers can be made out of a 3 1/4 pound package of ground beef?

13 HAMBURGERS

6. Jim must move 17 3/4 tons of gravel to a new construction site. The maximum his truck can carry is 1 2/3 tons. How many trips must Jim make to move all the gravel? Round your answer to the next whole number.

11 TRIPS

SIX MINUTE INTERVALS

COMPETENCY: Solve problems using estimating and rounding. (2)

OBJECTIVE: To round minutes to the nearest six minute interval.

DIRECTIONS: Convert minutes to the nearest six minute interval. (Compare minutes given to multiples of six.) Round up to the next highest interval.

	MINUTES	SIX MINUTE INTERVAL
1.	8 minutes	________
2.	30 minutes	________
3.	10 minutes	________
4.	16 minutes	________
5.	59 minutes	________
6.	54 minutes	________
7.	45 minutes	________
8.	25 minutes	________
9.	40 minutes	________
10.	5 minutes	________
11.	50 minutes	________
12.	35 minutes	________

SIX MINUTE INTERVALS
ANSWER KEY

1.	1
2.	5
3.	2
4.	3
5.	10
6.	9
7.	8
8.	4
9.	7
10.	1
11.	8
12.	6

SIX MINUTE TIME INTERVALS TO DECIMALS

COMPETENCY: Use fractions, decimals, and percentages interchangeably. (10)

OBJECTIVE: To convert fractions to decimals.

DIRECTIONS: Express the six minute time intervals given as a fractional part of sixty (60). Reduce each fraction by dividing the numerator and denominator by six (6). Write each reduced fraction as a decimal (tenths) or as a mixed number.

SIX MINUTE INTERVAL	FRACTION	REDUCED FRACTION	DECIMAL
1. 6 minutes			
2. 18 minutes			
3. 30 minutes			
4. 12 minutes			
5. 60 minutes			
6. 36 minutes			
7. 54 minutes			
8. 42 minutes			
9. 66 minutes			
10. 24 minutes			
11. 72 minutes			
12. 48 minutes			

SIX MINUTE TIME INTERVALS
ANSWER KEY

SIX MIN. INT.		FRACTION	REDUCED FRACTION	DECIMAL
1.	6	6/60	1/10	.1
2.	18	18/60	3/10	.3
3.	30	30/60	1/2	.5
4.	12	12/60	1/5	.2
5.	60	60/60	1/1	1.0
6.	36	36/60	3/5	.6
7.	54	54/60	9/10	.9
8.	42	42/60	7/10	.7
9.	66	66/60	11/10	1.1
10.	24	24/60	2/5	.4
11.	72	72/60	6/5	1.2
12.	48	48/60	4/5	.8

COMMISSIONS GRAPH

Competency: To solve problems using graphs and charts

Objective: To create a graph; to compute an average

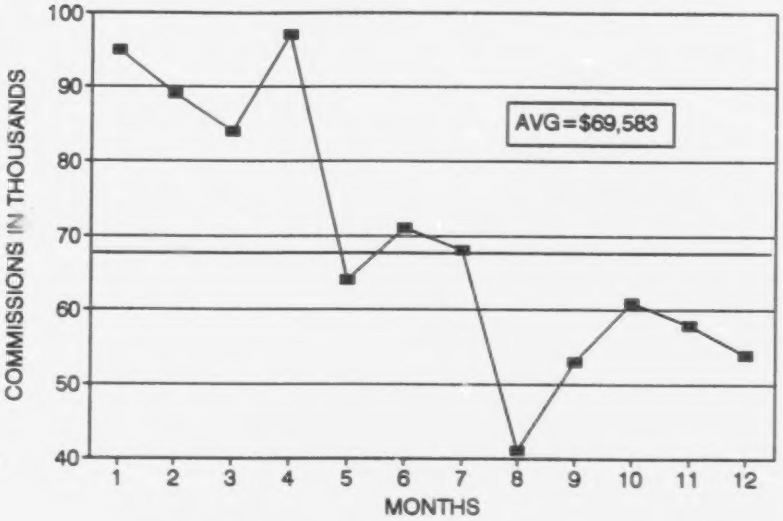
The following commissions were paid in 1993 (rounded to the nearest thousands):

Jan.	$95,000
Feb.	89,000
March	84,000
April	97,000
May	64,000
June	71,000
July	68,000
Aug.	41,000
Sept.	53,000
Oct.	61,000
Nov.	58,000
Dec.	54,000

1. Construct a graph showing these commissions by month. Be sure to include a title, and to label the horizontal and vertical axes.

2. Total the commissions for 1993. Find an average, and show the average on your graph.

COMMISSIONS GRAPH - ANSWER KEY



COMMISSIONS PAID - 1993

Commissions Paid - 1993

MONTH	THOUSANDS
1	$95
2	$89
3	$84
4	$97
5	$64
6	$71
7	$68
8	$41
9	$53
10	$61
11	$58
12	$54

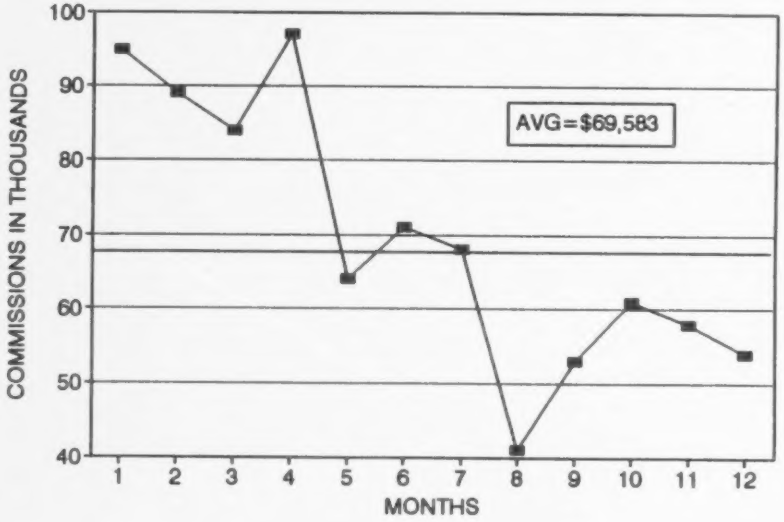
AVERAGE: $69,583

Answer Key

Title: Commissions Paid 1993

COMMISSIONS GRAPH - ANSWER KEY

COMMISSIONS PAID - 1993



PRESS PAPER WASTE GRAPH

Competency: To solve problems using graphs and charts

Objective: to interpret data from a graph

Directions: Use the attached graph to answer these questions.

1. What is the title of this graph? Which press does it represent?

2. What does the vertical axis tell you? The horizontal axis?

3. What is the average paper waste over the time period shown?

4. In which week was there the least percentage of paper waste? How much was it?

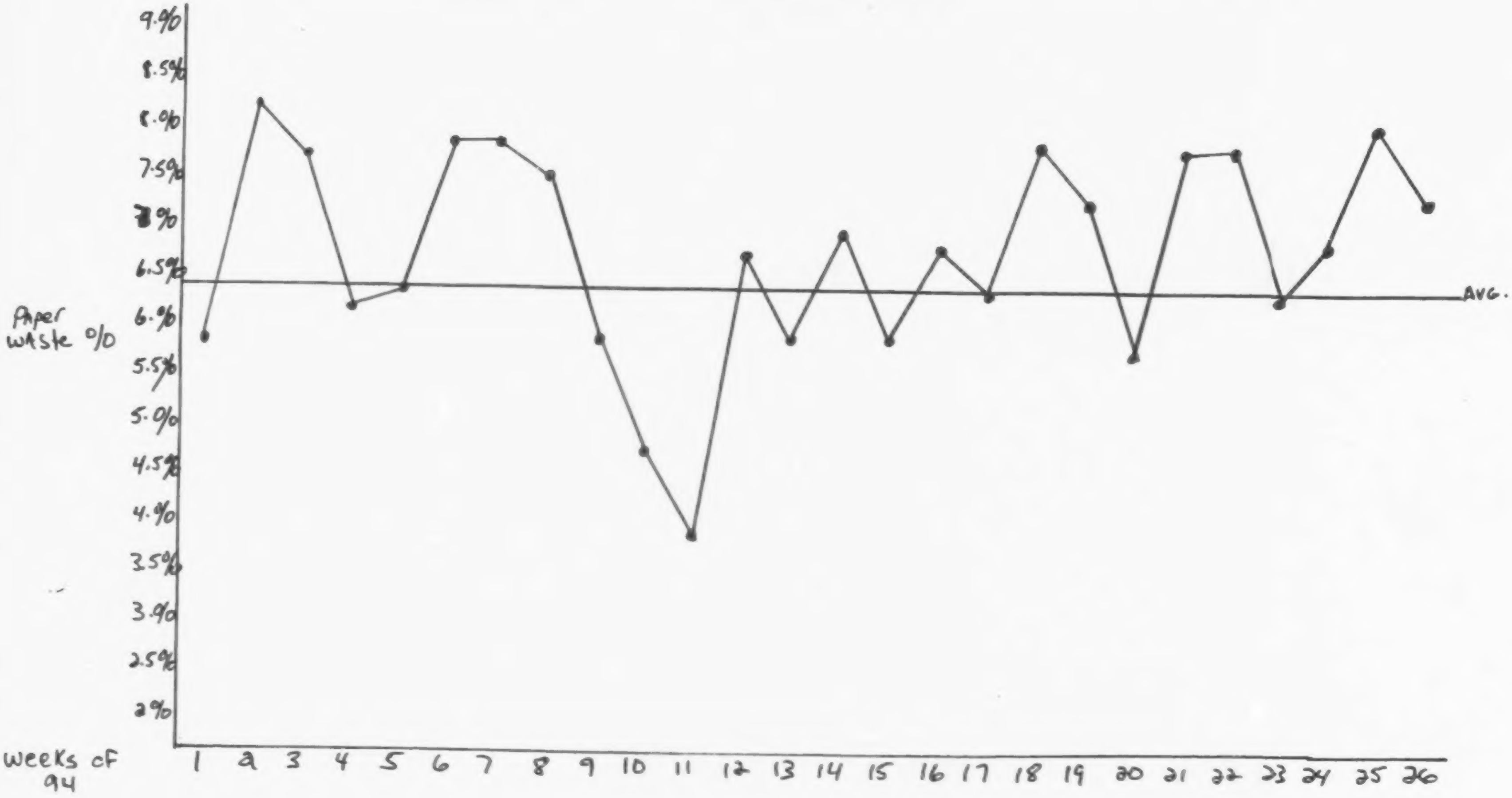
5. In which week was there the largest percentage of paper waste?

6. Which weeks exceeded the average percentage of waste?

7. By what percent did waste decline between weeks 8 and 11?

8. By what percentage was week 11 under the average for waste?

Press paper WAste % for 94



Centaur Press
(Press)

PRESS PAPER WASTE GRAPH

ANSWER KEY

Competency: To solve problems using graphs and charts

Objective: to interpret data from a graph

Directions: Use the attached graph to answer these questions.

1. What is the title of this graph? Which press does it represent?

   Ans: Press Paper Waste % for '94.

2. What does the vertical axis tell you? The horizontal axis?

   Ans: paper waste; weeks of '94 (1-26)

3. What is the average paper waste over the time period shown?

   Ans: 6.5%

4. In which week was there the least percentage of paper waste? How much was it?

   Ans: Week 11; about 4%

5. In which week was there the largest percentage of paper waste?

   Ans: Week 2

6. Which weeks exceeded the average percentage of waste?

   Ans: 2,3,6,7,8,12,14,16,18,19,21,22,24,25,26

7. By what percent did waste decline between weeks 8 and 11?

   Ans: Week 8 (7.5%) minus Week 11 (4.0%) = 3.5%

8. By what percentage was week 11 under the average for waste?

   Ans: Average (6.5%) minus Week 11 (4.0%) = 2.5%

NEIGHBORHOODS READER COMMISSION REPORT

Competency: To solve problems with whole numbers and decimals

Objective: To calculate a total using multiplication and addition

Directions: Calculate the Commission for each Neighborhood, and the total commission for all combined on the attached worksheet.

NEIGHBORHOODS READER COMMISSION

Week of ______________

NORTH CARROLL NEIGHBORHOODS

Total # of ads (5 paid ads + 8 free ads) = ______
Total # of ads ______ x .16 = ______
Total # of ads ______ x 4 lines = ______
Total # of lines sold 78 - ______ (ads x 4 lines) =
______ x .05 = ______
Other bonus (Explain Group bonus) 2.00

TOTAL: ______

WEST CARROLL NEIGHBORHOODS

Total # of ads (3 paid ads + 6 free ads) = ______
Total # of ads ______ x .16 = ______
Total # of ads ______ x 4 lines = ______
Total # of lines sold 30 - ______ (ads x 4 lines) =
______ x .05 = ______
Other bonus (Explain ______) ______

TOTAL: ______

SOUTH CARROLL NEIGHBORHOODS

Total # of ads (4 paid ads + 9 free ads) = ______
Total # of ads ______ x .16 = ______
Total # of ads ______ x 4 lines = ______
Total # of lines sold 81 - ______ (ads x 4 lines) =
______ x .05 = ______
Other bonus (Explain ______) ______

TOTAL: ______

CENTRAL CARROLL NEIGHBORHOODS

Total # of ads (12 paid ads + 11 free ads) = ______
Total # of ads ______ x .16 = ______
Total # of ads ______ x 4 lines = ______
Total # of lines sold 92 - ______ (ads x 4 lines) =
______ x .05 = ______
Other bonus (Explain ______) ______

TOTAL: ______

TOTAL COMMISSION: ______

NEIGHBORHOODS READER COMMISSION

ANSWER KEY

Week of ________________

NORTH CARROLL NEIGHBORHOODS

Total # of ads (5 paid ads + 8 free ads) = 13
Total # of ads 13 x .16 = 2.08
Total # of ads 13 x 4 lines = 52
Total # of lines sold 78 - 52 (ads x 4 lines) = 26
26 x .05 = 1.30
Other bonus (Explain Group bonus) 2.00

TOTAL: $5.38

WEST CARROLL NEIGHBORHOODS

Total # of ads (3 paid ads + 6 free ads) = 9
Total # of ads 9 x .16 = 1.44
Total # of ads 9 x 4 lines = 36
Total # of lines sold 30 - 36 (ads x 4 lines) = 0
n/a x .05 = n/a
Other bonus (Explain ________________)

TOTAL: 1.44

SOUTH CARROLL NEIGHBORHOODS

Total # of ads (4 paid ads + 9 free ads) = 13
Total # of ads 13 x .16 = 2.08
Total # of ads 13 x 4 lines = 52
Total # of lines sold 81 - 52 (ads x 4 lines) = 29
29 x .05 = 1.45
Other bonus (Explain ________________)

TOTAL: 3.53

CENTRAL CARROLL NEIGHBORHOODS

Total # of ads (12 paid ads + 11 free ads) = 23
Total # of ads 23 x .16 = 3.68
Total # of ads 23 x 4 lines = 92
Total # of lines sold 92 - 92 (ads x 4 lines) = 0
n/a x .05 =
Other bonus (Explain ________________)

TOTAL: 3.68

TOTAL COMMISSION: $14.03

COMMISSION REPORT
CARROLL COUNTY TIMES

Competency: To solve problems using whole numbers and decimals

Objective: To calculate a total using addition and percents

Directions: Calculate total inches and total commissions for the week using the attached Commission Report.

Robert Shaw must complete his commission report for the week ending October 2l, 1994. His sales are as follows (no discounts apply):

Carroll County Times:

30 inches of retail and 48 inches of classified;
1 insert (house account - $25.00 each);
1 color at $115.00;
$8.12 from Neighborhood Commission;
20 inches in TV Week ($.07/in.)

He also sold 12 inches of classified and one black & white insert to a house account for the Community Times.

Commission Report - Carroll County Times

Salesperson's Name ____________________ #__________

Week Ending ____________________

Carroll County Times

Inch for Week R __________ C __________ x 20% = __________ x .22 = $__________

Inserts for Week $__________ x 10% = $__________

Color for Week $__________

Other $__________ Explain

Total $__________

Community Times

Inch for Week R __________ C __________ x 20% = __________ x .22 = $__________

Inserts for Week $__________ x 10% = $__________

Color for Week $__________

Bonus Inches __________ x .13 = $__________

Other $__________ Explain

Total $__________

Randallstown News

Inch for Week R __________ C __________ x 20% = __________ x .22 = $__________

Inserts for Week $__________ x 10% = $__________

Color for Week $__________

Bonus Inches __________ x .13 = $__________

Other $__________ Explain

Total $__________

Carroll County Times Extra

Inch for Week R __________ C __________ x 20% = __________ x .22 = $__________

Inserts for Week $__________ x 10% = $__________

Color for Week $__________

Bonus Inches __________ x .13 = $__________

Other $__________ Explain

Total $__________

Community Times Extra

Inch for Week R __________ C __________ x 20% = __________ x .22 = $__________

Inserts for Week $__________ x 10% = $__________

Color for Week $__________

Bonus Inches __________ x .13 = $__________

Other $__________ Explain

Total $__________

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TOTAL INCHES for the WEEK ____________________

TOTAL COMMISSION for the WEEK $

Commission Report - Carroll County Times

ANSWER KEY

Salesperson's Name Robert Shaw #

Week Ending 10/21/94

Carroll County Times

Inch for Week R 30 C 48 (78) x 20% = 15.60 x .22 = $ 3.43

Inserts for Week $ x 10% = $ 25.00

Color for Week $ 115.00 x 10% = $11.50

Other $ 9.52 Explain $8.12 in Neighborhood Commission; 20" in TV Week (.07 x 20 = $1.40)

Total $ 49.45

Community Times

Inch for Week R C 12 x 20% = 2.40 x .22 = $ .53

Inserts for Week $ x 10% = $ 25.00

Color for Week $

Bonus Inches x .13 = $

Other $ Explain

Total $ 25.53

Randallstown News

Inch for Week R C x 20% = x .22 = $

Inserts for Week $ x 10% = $

Color for Week $

Bonus Inches x .13 = $

Other $ Explain

Total $

Carroll County Times Extra

Inch for Week R C x 20% = x .22 = $

Inserts for Week $ x 10% = $

Color for Week $

Bonus Inches x .13 = $

Other $ Explain

Total $

Community Times Extra

Inch for Week R C x 20% = x .22 = $

Inserts for Week $ x 10% = $?

Color for Week $

Bonus Inches x .13 = $

Other $ Explain

Total $

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TOTAL INCHES for the WEEK 90

RESULTS OF WORKER ACTIONS

COMPETENCY: Write short notes and memos using complete sentences. (5)

OBJECTIVE: To write short narratives showing cause and effect.

DIRECTIONS: Write a few sentences or a brief paragraph describing the impact of one worker's actions in the following situations. Consider the impact on other workers, other departments, and on Crabcake Press as a whole.

1. A worker pulls all quality control samples at the end of day.

2. A worker takes a break at the same time as his/her partner and shuts down the press.

3. A worker puts a box on the conveyer belt with the bar code facing down.

4. A worker mislabels a carton.

5. A worker fills out a portion of the job jacket incorrectly.

6. A worker runs a large job without pulling quality control samples.

7. A worker waits to fill out his/her production card until the end of the day.

RESULTS OF WORKER ACTIONS
ANSWER KEY

Answers will vary. Sample answers follow:

1. The purpose of pulling quality control samples is to adjust the press run if the specifications on the job jacket are not met or the quality is not acceptable. Pulling all quality control samples at the end of the day could result in a poor quality job. Customers return jobs which are not acceptable. Spoilage is increased, costs rise to print the job again, and customers could take their business elsewhere. If this happens enough it could cost the company jobs and profit.

2. When both work partners take a break together the press must be shut down, resulting in unnecessary down time. In a competitive industry where deadlines are important the long-term result could be lost business for failure to meet deadlines.

3. If the bar code is face down it cannot be read electronically and the box will be rerouted off the conveyer belt. The box will have to be reinserted on the conveyer belt manually.

4. If a carton is mislabeled it could be shipped out with the wrong job and the correct job would be short a carton.

5. If a portion of the job jacket is filled out incorrectly, it could take extra time to clarify the specifications of the job causing unneeded delay in meeting a deadline. If the error is not caught as the press run is set up, spoilage could result.

6. If quality control samples are not pulled there is no way to check if the job will meet customer specifications and be acceptable. Running a large job with poor quality could be quite costly in terms of spoilage, meeting deadlines, and customer satisfaction.

7. Production cards should be filled out periodically during the day as runs are completed. If this is not done, numbers and gauge readings may be inaccurate making it difficult to track production.

SHIFT CHANGE REQUEST

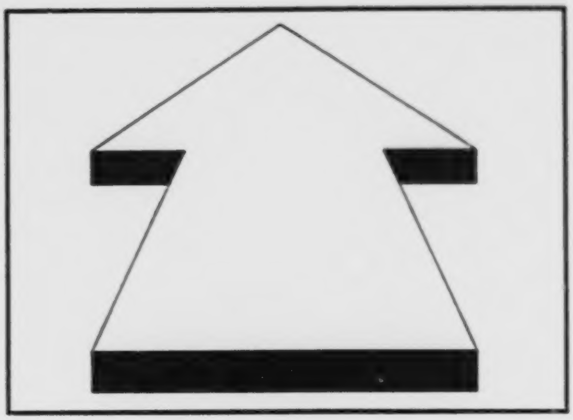
COMPETENCY: Write short notes and memos using complete sentences. (5)

OBJECTIVE: To communicate in writing to a supervisor.

DIRECTIONS: Write a brief note to your supervisor requesting a change in shift assignment. Explain how your work will help production and quality control on the shift which you request.

DEFINE THE PROBLEM

DEFINE



- **DETERMINE DIRECTION**
- **FOCUS ON FACTS**
- **PRIORITIZE ISSUES**
- **ECONOMIZE EFFORTS**
- **REACH CONSENSUS**
- **STAY ON TARGET**

TO DEFINE THE PROBLEM:

OBTAIN INFORMATION
DETERMINE THE ACCURACY OF INFORMATION
ORGANIZE INFORMATION INTO A USABLE FORMAT

OBTAINING INFORMATION

- **ASK OPEN-ENDED QUESTIONS**
- **TALK WITH KEY PERSONNEL/CUSTOMERS**
- **CHECK FOR MISSING INFORMATION**

DETERMINING ACCURACY OF INFORMATION

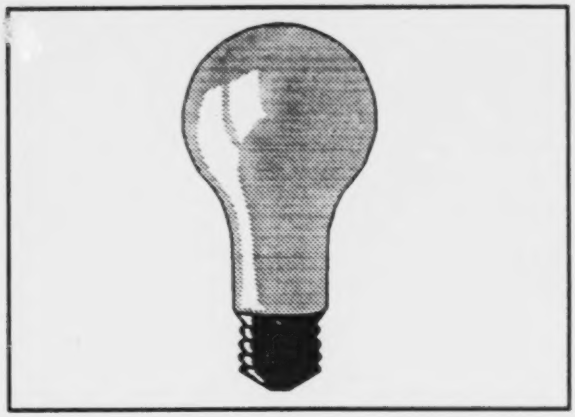
- **DISTINGUISH FACT/OPINION**
- **DISTINGUISH RELEVANT & IRRELEVANT FACTS**

ORGANIZING INFORMATION

- **CATEGORIZE THE PROBLEM**
- **LIST DESIRED OUTCOMES**
- **PRIORITIZE DESIRED OUTCOMES**
- **LIST CRITERIA FOR SUCCESS**

ORIGINATE SOLUTIONS

ORIGINATE



LET YOUR IMAGINATION RUN FREE AND DREAM!

- GENERATE AS MANY IDEAS AS POSSIBLE
- ALL IDEAS ARE ACCEPTABLE NOW

IDEAS ARE NOT JUDGED AT THIS STAGE. THERE ARE NO RULES TO APPLY, NO RIGHT OR WRONG ANSWERS, NO LIMITING FACTORS. IT IS IMPORTANT, HOWEVER, TO LISTEN AND RECORD ALL IDEAS. AN IDEA THAT FIRST SEEMS IMPRACTICAL MAY LATER BE A SPRINGBOARD TO A REAL SOLUTION!

IF IDEAS DO NOT COME IMMEDIATELY, BE PATIENT. THE MOST CREATIVE IDEAS MAY COME AT UNUSUAL TIMES. IT IS USEFUL TO KEEP A NOTEBOOK HANDY FOR SUCH TIMES.

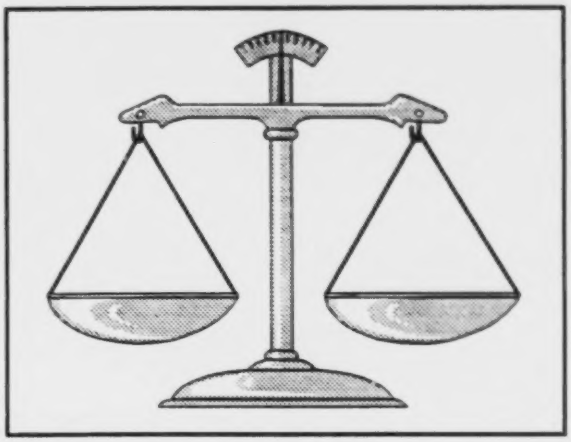
RELAX, SUSPEND ALL CRITICAL JUDGMENTS, AND DO SOME CREATIVE THINKING. YOU'LL BE SURPRISED AT YOUR RESOURCEFULNESS AND CREATIVITY!

CREATIVE THINKING CAN:

- BE FUN
- BROADEN YOUR VIEWPOINT
- PROVIDE FRESH INSIGHTS
- SHARPEN YOUR PERSPECTIVE
- PROVIDE VISION

SELECT A SOLUTION

SELECT

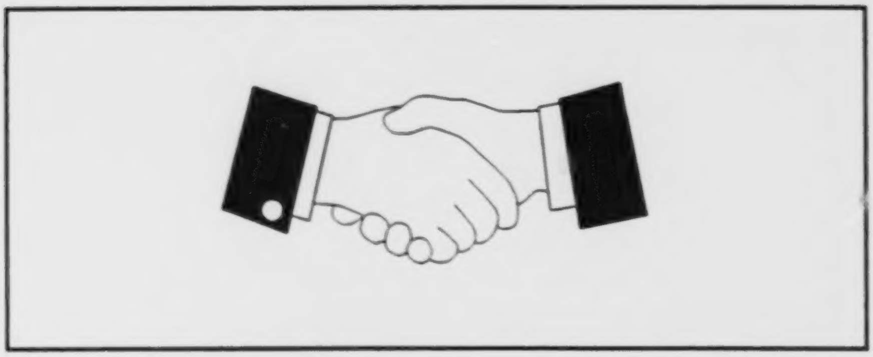


YOUR EFFORTS TO CLEARLY DEFINE THE PROBLEM AND BRAINSTORM CREATIVE SOLUTIONS WILL NOW GUIDE YOU TO AN APPROPRIATE SOLUTION FOR YOUR UNIQUE SITUATION.

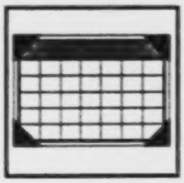
TIPS TO SELECT A SOLUTION:

- BE AWARE OF FACTORS SUCH AS EMOTIONS, HABITS, WHICH MAY NOT LEAD TO DESIRED RESULTS
- CONSIDER THE PLUS/MINUS/INTERESTING FACTORS
- RANK SOLUTIONS BY YOUR CRITERIA FOR SUCCESS
- WRITE "IF...THEN..." STATEMENTS TO CONSIDER:
  - IMMEDIATE CONSEQUENCES
  - SHORT-TERM CONSEQUENCES
  - LONG-TERM CONSEQUENCES
  - UNINTENDED CONSEQUENCES
- DISCUSS PROMISING SOLUTIONS WITH COLLEAGUES/ OTHERS WHO MAY HAVE FRESH INSIGHTS
- LISTEN CAREFULLY TO ALL POINTS-OF-VIEW

IMPLEMENT A SOLUTION

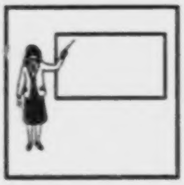


DOSIE + IMPLEMENTATION PLAN = EFFECTIVE ACTION
YOUR PLAN SHOULD INCLUDE:



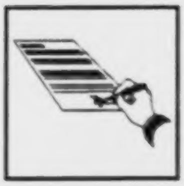
A TIME TABLE

- BE REALISTIC
- PLAN AHEAD
- INVOLVE KEY STAFF



PROCEDURES

- COMMUNICATE CLEARLY
- FOLLOW THROUGH
- BE SPECIFIC
- IDENTIFY WHO, WHAT, WHERE, WHEN



FEEDBACK

- SEEK FEEDBACK ACTIVELY
- REMAIN OPEN/OBJECTIVE
- CONSIDER IMPLEMENTATION

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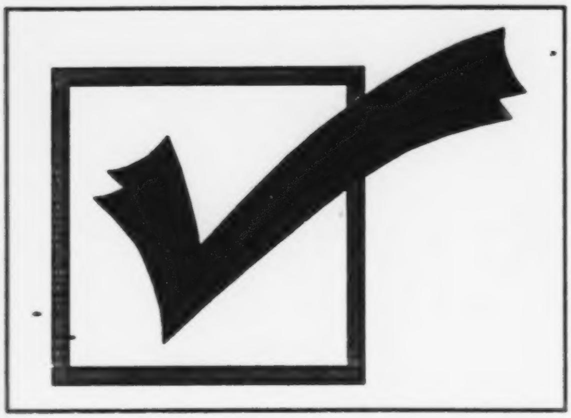
EVALUATE THE SOLUTION



YOUR EVALUATION IS:

- A FINAL STEP TO RESOLVE THE SITUATION
- AN OPPORTUNITY TO USE RAPPORT/NETWORKS BUILT BY THE PROBLEM-SOLVING PROCESS
- A MEASURE OF YOUR SOLUTIONS' POTENTIAL
- A METHOD TO RECEIVE FEEDBACK FROM ALL
- A STARTING POINT FOR FURTHER REFINEMENT

EVALUATE

Skills
TODAY
for
TOMORROW

Catonsville Community College & PIM&SP
A Partnership For The Future.

CRITICAL THINKING
AND
PROBLEM SOLVING

DEVELOPED BY:
CATONSVILLE COMMUNITY COLLEGE
IN PARTNERSHIP WITH
PRINTING INDUSTRIES OF MARYLAND
AND SOUTHERN PENNSYLVANIA

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Laura E. Weidner, Project Director

CRITICAL THINKING & PROBLEM-SOLVING AS YOU BEGIN

You may have noticed that similar problems seem to occur over and over again, both on and off the job. It is easy to feel overwhelmed and frustrated-as if you don't know where to begin. However, a systematic problem solving method can be an effective tool to promote successful solutions.

The problem-solving model you will learn in the CRITICAL THINKING AND PROBLEM-SOLVING MODULE is called the DOSIE. If you have never thought about how you solve problems, the DOSIE provides an essential framework. If you are a good problem-solver, using the DOSIE can expand and refine your current skills.

D	Define the problem
O	Originate solutions
S	Select a solution
I	Implement the solution
E	Evaluate the solution

SKILL PRACTICE WILL BE PROVIDED WITH:

- A PROBLEM SET RELEVANT TO YOUR WORK-SITE
- PROBLEM SITUATIONS THAT YOU HAVE SUGGESTED
- INDIVIDUAL, SMALL GROUP, TOTAL CLASS ACTIVITIES

As you work through the course materials, remember that problem solving is as much a process as it is a final product or solution. You are taking an exciting first step toward effective problem-solving, now and in the future.

CRITICAL THINKING & PROBLEM-SOLVING SELF-ASSESSMENT

STYLE

DIRECTIONS: CAREFULLY READ ALL CHOICES IN EACH SECTION.
CHECK THE RESPONSE THAT BEST DESCRIBES YOU.

WHEN A PROBLEM OCCURS, I USUALLY:

1. A. ______DON'T KNOW WHAT TO DO/HAVEN'T THOUGHT ABOUT
B. ______TRY DIFFERENT THINGS
C. ______TRY TO PLAN, BUT DON'T ALWAYS FOLLOW THROUGH
D. ______PLAN, ORGANIZE

2. A. ______PANIC
B. ______PROCRASTINATE
C. ______REACT
D. ______PLAN

3. A. ______DENY IT
B. ______AVOID IT
C. ______FACE IT

4. A. ______BECOME EMOTIONALLY INVOLVED
B. ______DO ONLY WHAT IS NECESSARY
C. ______BECOME INVOLVED IN THE CHALLENGE

5. A. ______LET IT RESOLVE ITSELF
B. ______DO WHAT SEEMS BEST AT THE TIME
C. ______SOLVE IT EVENTUALLY
D. ______SET GOALS, THEN ACT
E. ______HAVE PLANNED FOR IT IN ADVANCE

6. A. ______ACT RANDOMLY
B. ______ACT AS I HAVE IN THE PAST
C. ______ADAPT TO CHANGE

7. A. ______GET BOGGED DOWN IN DETAILS
B. ______LOOK AT THE WHOLE SITUATION
C. ______BREAK THE TASK DOWN INTO MANAGEABLE PARTS

8. A. ______SOLVE IT IN THE EASIEST WAY
B. ______DO WHAT WORKS AT THE MOMENT
C. ______LOOK FOR A PERMANENT SOLUTION

9. A. ______DON'T TRY VERY HARD
B. ______TRY FOR A TIME TO SOLVE IT
C. ______WORK IT THROUGH
D. ______SOLVE IT, NO MATTER WHAT

CRITICAL THINKING & PROBLEM-SOLVING
SELF-ASSESSMENT
STYLE

DIRECTIONS: CAREFULLY READ ALL CHOICES IN EACH SECTION. CHECK THE RESPONSE THAT BEST DESCRIBES YOU.

WHEN A PROBLEM OCCURS, I USUALLY:

10. A. ______FEEL PANIC, FRUSTRATION, OR ANGER
B. ______FEEL I CAN COPE
C. ______FEEL CALM AND IN CONTROL

11. A. ______HOPE I LIVE THROUGH IT SOMEHOW
B. ______THINK ABOUT IT A LITTLE
C. ______TRY TO UNDERSTAND WHY

12. A. ______SPIN MY WHEELS
B. ______GET SOMETHING DONE
C. ______GET A LOT ACCOMPLISHED

13. A. ______IGNORE IT
B. ______COVER IT UP
C. ______COME THROUGH IN THE END
D. ______HAVE A PLAN TO SOLVE IT

14. I SEEM TO:

A. ______CREATE PROBLEMS FOR MYSELF
B. ______HAVE MORE THAN MY SHARE OF PROBLEMS
C. ______HAVE THE SAME PROBLEMS AS EVERYONE ELSE
D. ______HAVE FEW PROBLEMS

15. AFTER I'VE SOLVED A PROBLEM, I USUALLY FEEL:

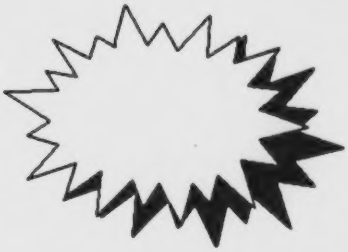
A. ______RELIEF
B. ______SATISFACTION

CHECK AS MANY AS APPLY TO YOU:

16. THE WAY I SOLVE PROBLEMS IS MAINLY INFLUENCED BY:

A. ______PARENTS
B. ______FAMILY
C. ______FRIENDS
D. ______HABIT
E. ______CONVENIENCE
F. ______TRIAL & ERROR
G. ______WORK GROUP
H. ______SUPERVISOR
I. ______THOSE I ADMIRE
J. ______WHAT I OBSERVE
K. ______MY OWN IDEAS
L. ______PROVEN EXPERIENCE

CRITICAL THINKING & PROBLEM-SOLVING SELF-ASSESSMENT



TIME & RESOURCES

DIRECTIONS: CAREFULLY READ ALL CHOICES IN EACH SECTION.
CHECK THE RESPONSE THAT BEST DESCRIBES YOU.

WHEN A PROBLEM OCCURS, I USUALLY:

1. A. ______SPEND MOST OF MY TIME WORRYING ABOUT IT
B. ______TAKE SOME STEPS TO SOLVE IT
C. ______DEVELOP A PLAN TO SOLVE IT RIGHT AWAY

2. A. ______ACT AT THE LAST MINUTE/RUSH FOR DEADLINES
B. ______SET A SCHEDULE OR TIME TABLE TO SOLVE IT
C. ______BUILD LEAD TIME INTO MY PLANS

3. A. ______HAVE UNORGANIZED OR INACCESSIBLE RESOURCES
B. ______BARELY HAVE WHAT I NEED
C. ______HAVE SOME RESOURCES AVAILABLE
D. ______HAVE ORGANIZED RESOURCES WHICH I HAVE DEVELOPED

4. A. ______HAVE SOME DUPLICATION OF EFFORT/RESOURCES
B. ______USE RESOURCES FAIRLY WELL
C. ______USE RESOURCES WISELY

5. A. ______NEED A LOT OF TIME/HAVE TO DO THINGS MORE THAN ONCE
B. ______SAVE TIME BY PLANNING ON THE SPOT
C. ______HAVE SAVED TIME BY PRIOR PLANNING

6. IF I HAVE SLOW TIME AT WORK, I USUALLY:

A. ______DO SOMETHING ENJOYABLE
B. ______DO ONLY WHAT IS NECESSARY AT THE MOMENT
C. ______PLAN/TAKE ACTIONS WHICH WILL HELP ME ON MY JOB

CRITICAL THINKING & PROBLEM-SOLVING
ASSESSMENT
TIME & RESOURCES

DIRECTIONS: CAREFULLY READ ALL CHOICES IN EACH SECTION. CHECK THE RESPONSE THAT BEST DESCRIBES YOU.

7. WHEN I RECEIVE INFORMATION, I USUALLY:

A. ______LOSE IT
B. ______ACT ON IT IMMEDIATELY OR FILE FOR FUTURE USE
C. ______SEE HOW IT FITS INTO MY LONG-RANGE PLANS

8. THE AMOUNT OF TIME IN A DAY:

A. ______IS NEVER ENOUGH
B. ______IS ENOUGH TO BARELY GET BY
C. ______CAN BE MANAGED WISELY TO ACCOMPLISH GOALS

9. MOST OF MY PROBLEMS:

A. ______SEEM TO HANG ON FOREVER
B. ______ARE RESOLVED AFTER A TIME
C. ______ARE RESOLVED IN A TIMELY FASHION THROUGH PLANNING

CHECK AS MANY AS APPLY TO YOU:

10. MY JOB INVOLVES A LOT OF MY TIME BECAUSE IT INVOLVES:

A. ______LEARNING
B. ______CREATIVITY
C. ______CHANGE
D. ______AUTHORITY I DON'T HAVE
E. ______RESOURCES I DON'T HAVE
F. ______DELEGATION OF WORK
G. ______GOALS THAT MAY NOT BE REALISTIC
H. ______OVERSCHEDULING OF MY TIME
I. ______HIGH OR RIGOROUS STANDARDS

CRITICAL THINKING & PROBLEM-SOLVING

SELF AND OTHERS

DIRECTIONS: CAREFULLY READ ALL CHOICES IN EACH SECTION.
CHECK THE RESPONSE THAT BEST DESCRIBES YOU.

WHEN A PROBLEM OCCURS, I USUALLY:

1. A. ______RELY ON HELP FROM OTHERS
B. ______WORK INDEPENDENTLY
C. ______WORK WITH OTHERS AS A TEAM

2. A. ______LET OTHERS DEAL WITH IT
B. ______TAKE ON MORE THAN IS NECESSARY
C. ______DO WHAT I CAN/DELEGATE APPROPRIATELY

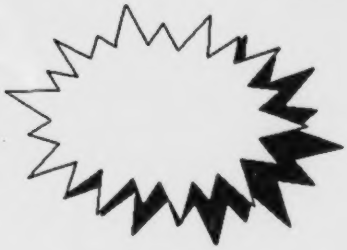
3. A. ______AM MOST INFLUENCED BY OTHERS' IDEAS
B. ______AM MOST INFLUENCED BY MY OWN IDEAS
C. ______AM MOST INFLUENCED BY COMPROMISES

4. A. ______GET BOGGED DOWN IN THE SYSTEM
B. ______WORK THROUGH CHANNELS, EVEN THOUGH IT TAKES TIME
C. ______WORK WELL WITHIN THE SYSTEM WITH SOME FLEXIBILITY

5. A. ______IGNORE FEEDBACK IF IT IS NEGATIVE
B. ______DEFEND MY IDEAS AGAINST CRITICISM
C. ______DO MY BEST, INCORPORATE SUGGESTIONS FOR IMPROVEMENT

6. A. ______IGNORE IT
B. ______WAIT FOR MY WORK GROUP OR THOSE IN AUTHORITY TO ACT
C. ______DO WHAT I CAN
D. ______LEAD OTHERS TO A SOLUTION

CRITICAL THINKING & PROBLEM-SOLVING SELF-ASSESSMENT



SATISFACTION

DIRECTIONS: CAREFULLY READ ALL CHOICES IN EACH SECTION.
CHECK THE RESPONSE THAT BEST DESCRIBES YOU.

1. ON THE WHOLE, I WOULD RATE MY PROBLEM-SOLVING STRATEGIES AS:

A. ______NOT SATISFACTORY
B. ______SOMEWHAT SATISFACTORY
C. ______SATISFACTORY
D. ______QUITE SATISFACTORY

CHECK AS MANY AS APPLY TO YOU:

2. WHEN I HAVE TO SOLVE A PROBLEM, I USUALLY FEEL:

A. ______AFRAID OF FAILURE
B. ______BURNT-OUT
C. ______HELPLESS
D. ______OVERWHELMED
E. ______CAPABLE
F. ______CONFIDENT

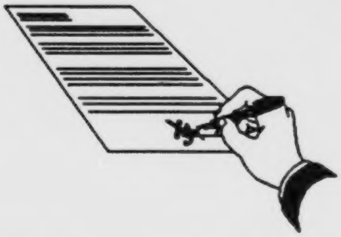
3. THE RESULTS OF MY PROBLEM-SOLVING IN THE PAST HAVE:

A. ______BEEN LESS THAN SUCCESSFUL
B. ______BEEN SOMEWHAT SUCCESSFUL
C. ______BEEN VERY SUCCESSFUL
D. ______BEEN NEUTRAL
E. ______LED TO OTHER PROBLEMS

4. AFTER A PROBLEM HAS BEEN SOLVED, I USUALLY:

A. ______AM GLAD IT'S OVER
B. ______GIVE A SIGH OF RELIEF
C. ______DON'T LOOK BACK
D. ______BLAME OR PRAISE OTHERS
E. ______DENY IT OR TAKE CREDIT
F. ______WISH I HAD DONE SOMETHING DIFFERENT
G. ______LEARN FROM THE PAST
H. ______EVALUATE CAREFULLY

CRITICAL THINKING & PROBLEM-SOLVING SELF-ASSESSMENT



SAMPLE CASE STUDY WRITING ACTIVITY

DIRECTIONS: WRITE A FEW SENTENCES OR A BRIEF PARAGRAPH GIVING THE FOLLOWING INFORMATION:

I SOLVED A PROBLEM IN THE PAST BY:

THE RESULTS OF MY PROBLEM-SOLVING EFFORTS WERE:

CRITICAL THINKING & PROBLEM-SOLVING
SAMPLE CASE STUDY
WRITING ACTIVITY

THE PROBLEM-SOLVING STRATEGIES WHICH I USED THAT WORKED WELL WERE:

THINGS WHICH COULD HAVE BEEN DONE BETTER WERE:

MOST OF MY TIME ON THIS PROBLEM WAS SPENT:

PROJECT 1

Your group is having problems with a job requiring 200 line halftone screens for medical quality work. Your usual work is 133 line halftones on uncoated paper. You don't understand why the salesman brought in this job, which is taking an excessive amount of your time because it is unfamiliar and difficult. What can you do in this situation?

PROJECT 2

Should a printing company cut prices temporarily for a good customer in order to keep employees working in slack times?

PROJECT 3

Your company has brought in new equipment which is more cost effective but uses fewer workers. Two of the workers whom you supervise will be phased out. What can you do in this situation?

PROJECT 4

You work in Billing, and a salesman calls you about an invoice you sent to one of his customers. The conversation reveals that the salesman made a verbal agreement with the customer to reduce the price because the delivery schedule was not met. The customer was very upset when you billed the original price. What can you do in this situation and in the future?

PROJECT 5

The second shift didn't tell the third shift people the location of a pallet of reply cards needed for the job they were working on. The third shift spent considerable time looking for the cards. What can be done in this situation now and in the future?

PROJECT 6

An employee in the department you supervise was involved in an alcohol-related accident. The employee was sentenced to thirty days in jail. The employee is a good worker; however, company attendance policy requires automatic dismissal after three days unexcused absence. You would like to keep this worker. What can be done?

PROJECT 7

The job is almost through Composition, with the schedule set. Then the customer sends in one more section to be added to the job. The customer wants to keep to the same schedule? What can be done now and in the future?

PROJECT 8

You work in Composition. A manuscript just appears on your work table, with no paperwork attached, but you know it is from your customer. What can be done now and in the future?

PROJECT 9

You notice that the spoilage figures for your department are significantly higher on Mondays than on other days. What can be done to correct this situation?

PROJECT 10

In your department eight out of ten employees have signed up for the ***Skills Today for Tomorrow*** course beginning next week. That many people cannot be off the floor at once without severely impacting the job. What can be done now and in the future?

PROJECT 11

The employees in your department have repeatedly complained about a co-worker who has poor personal hygiene. What can be done?

PROJECT 12

In employee involvement groups, the complaints are often about people rather than specific actions or processes. The tendency is to look for someone to blame rather than a way to correct the situation. What can be done?

PROJECT 13

You are a salaried employee at Crabcake Press. If you work until 11:30 p.m. to finish a job, you are still expected to arrive for work at 8:00 a.m. the next morning. You think you should be allowed to come in late the next morning. What can be done in this situation?

PROJECT 14

You suspect that one of the employees in your department is using drugs. He misses work quite often, and his behavior is sometimes erratic. Crabcake Press has an employee assistance program. How do you handle this situation?

PROJECT 15

One of your co-workers spends a great deal of time on the phone. You and the others in your department resent this, but the supervisor does not seem to notice. What can you do?

PROJECT 16

You are an experienced press operator. You are asked to train press helpers each time a new person is hired for this job. You do not mind doing this, but you find that it is taking time away from setting up press runs. This is increasing your down time considerably and affecting your monthly production quota. What can you do?

PROJECT 17

You are a newly hired employee at Crabcake Press. You enjoy your work, but recently you have felt uncomfortable because your supervisor has made remarks which you consider offensive. What should you do?

PROJECT 18

You take pride in your work and always try to do a good job. You have become very efficient in your work over the years. You notice your supervisor tends to rely on you to get the job done, rather than supervising those who do less on the job. You are finding your work load increasingly hard to manage. Your relationships with co-workers are also becoming strained. What can you do to improve this situation?

Skills TODAY for TOMORROW

"EFFECTIVE COMMUNICATION FOR THE WORKPLACE"

DEVELOPED BY:
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TO THE PARTICIPANT

Effective Communications in the Workplace **focuses on *YOU*, the learner. The activities in this course will help you to:**

STRENGTHEN CURRENT COMMUNICATION SKILLS

MASTER NEW SKILLS TO INCREASE YOUR REPERTOIRE

PRE-PLAN EFFECTIVE COMMUNICATION STRATEGIES

INTEGRATE A VARIETY OF COMMUNICATION SKILLS

SUCCESSFULLY EVALUATE COMMUNICATIONS

HIGHLIGHTS OF *"EFFECTIVE COMMUNICATION IN THE WORKPLACE"*

LEARNER DIRECTED/INSTRUCTOR FACILITATED ACTIVITIES

OPPORTUNITIES FOR ONGOING SELF-ASSESSMENT

USE OF EXISTING COMMUNICATION STRENGTHS

EXPANSION OF COMMUNICATION SKILLS REPERTOIRE

CHOICE OF APPROPRIATE COMMUNICATION METHOD(S)

INTEGRATED COMMUNICATION SKILLS IN ALL ACTIVITIES

HIGH LEVELS OF INTERACTION WITHIN/AMONG DEPARTMENTS

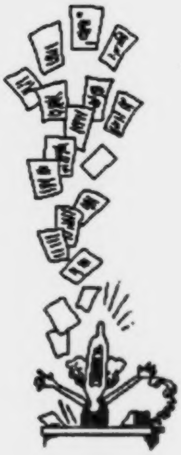
COMPETENCIES FOR "*EFFECTIVE COMMUNICATION IN THE WORKPLACE*"

LISTENING	
L-1	Paraphrases message
L-2	Distinguishes between factual information and opinion
L-3	Distinguishes between relevant and irrelevant information
L-4	Identifies incomplete information
L-5	Identifies factors influencing speaker's frame of reference
L-6	Identifies speaker's expectations
L-7	Draws accurate conclusions
SPEAKING	
S-1	Uses standard English grammar, syntax
S-2	Uses appropriate vocabulary
S-3	Uses conventions of courtesy
S-4	Validates message, acknowledges importance of information
S-5	Paraphrases, summarizes information in logical order
S-6	Questions to clarify, obtain information
S-7	Interprets, explains information
S-8	Gives clear directions in sequence
S-9	Expresses factual information effectively
S-10	Expresses feelings, opinions effectively
S-11	Makes appropriate referrals
S-12	Discusses as part of a work group or team
S-13	Makes appropriate suggestions, recommendations
S-14	Persuades others
S-15	Negotiates to resolve differences

COMPETENCIES FOR "*EFFECTIVE COMMUNICATION IN THE WORKPLACE*"

	READING
R-1	**Previews written material**
R-2	**Skims, scans to locate information**
R-3	**Identifies main idea**
R-4	**Identifies key vocabulary, definitions**
R-5	**Interprets charts, graphs, tables**
R-6	**Draws accurate conclusions**
	WRITING
W-1	**Uses complete sentences, standard English grammar**
W-2	**Uses appropriate vocabulary**
W-3	**Takes notes**
W-4	**Summarizes information**
W-5	**Categorizes information**
W-6	**Prioritizes information**
W-7	**Completes forms accurately**
W-8	**Writes reports**
W-9	**Writes business correspondence**
W-10	**Writes clear, sequential directions**
W-11	**Incorporates information into new formats**
W-12	**Proofreads information**

YOUR COMMUNICATION STYLE



Having a broad range of communication skills from which to choose can make you more effective both personally and on the job. The following activities in assessing your communication style will help you to determine areas of strength and areas for improvement. As you work through the activities, remember to take pride and satisfaction in your areas of strength, as well as to practice and refine new communication skills. In addition, these activities can be used to help you make sound judgments about the most effective communication tools to use in a variety of situations.

"A COMMUNICATIONS MODEL"

COMPETENCIES

L-7 Draws accurate conclusions
S-9 Expresses factual information effectively
S-10 Expresses feelings, opinions effectively

ACTIVITY

A) Communicate to a partner or group something that happened to you last week. Brainstorm to fill out information in the categories below to enhance your understanding of the communication.

CATEGORIES

Motivation for the communication

Factors influencing speaker

Verbal message

Non-verbal message

External distractions

Clarifications needed

Feedback given by speaker

YOUR COMMUNICATION STYLE

"FREQUENCY AND COMMUNICATION TYPE"

COMPETENCIES

W-5 Categorizes information

ACTIVITIES

A) Divide the work space below into four quadrants for Listening, Speaking, Reading, and Writing. List work activities in an average day or average week in the appropriate section. Label activities as work group, supervisor, or customer related.

B) Underline activities where you feel that you communicated effectively. Star activities where you feel the communication could have been more effective. Brainstorm ways in which the communication could have been made more effective.

YOUR COMMUNICATION STYLE

"CLARIFYING THE MESSAGE"

COMPETENCIES

S-12 Discusses as part of a work group or team
W-4 Summarizes information
W-11 Incorporates information into new formats

ACTIVITIES

A) Recall a recent time when you gave information to someone and there was a misunderstanding. Write a brief summary of this event and its results. In addition, make a chart using the categories below to describe the event. Fill in information from your situation to determine where the communication was not given or received precisely and to analyze areas for improved communication.

B) Share the description of the situation you chose in Activity A with a small group or the class. Use the group discussion for additional brainstorming and insights.

DESCRIPTION OF THE INTENDED MESSAGE

DESCRIPTION OF THE MESSAGE THAT WAS SENT

DESCRIPTION OF THE HOW THE MESSAGE WAS SENT

DESCRIPTION OF THE MESSAGE THAT WAS RECEIVED

DESCRIPTION OF POSSIBLE AREAS OF MISUNDERSTANDING

DESCRIPTION OF ADDITIONAL OR MORE EFFECTIVE WAYS TO COMMUNICATE THE MESSAGE

"COMMUNICATIONS SELF-CHECK"

COMPETENCIES

S-12	Discusses as part of a work group or team
W-4	Summarizes information
W-11	Incorporates information into new formats

ACTIVITIES

A) Use the statements on the following two pages to start thinking about your communication skills. Use a scale of 1 to 5 to rate your communication skills with the following statements with 1 meaning never and 5 meaning always.

B) Choose one statement from the lists on the following two pages. Think of a situation when you used the communication skill at work. The situation could have resulted in effective communication or miscommunication. Evaluate the situation and write a brief description of the incident including what was done effectively and what could have been done to make you a more effective communicator.

C) Share the description of the situation you chose in Activity B with a small group or the class. Use the group discussion for additional brainstorming and insights.

"COMMUNICATIONS SELF-CHECK"

Use a scale of 1 to 5 to rate your communication skills with the following statements with 1 meaning never and 5 meaning always.

When I talk to someone at work,

1. ___ **he/she understands what I mean.**
2. ___ **I use details, examples, illustrations to explain what I mean.**
3. ___ **I am careful not to confuse facts with my opinions.**
4. ___ **I express appropriate feelings when I talk.**
5. ___ **I am aware of my tone of voice.**
6. ___ **I am aware of my body language.**
7. ___ **I watch the other person for a reaction to what I am saying.**
8. ___ **I ask for more information if I don't understand.**
9. ___ **I try not to be sarcastic or negative.**
10. ___ **I wait for an appropriate time to bring up a sensitive issue.**

YOUR COMMUNICATION STYLE

"COMMUNICATIONS SELF-CHECK"

Use a scale of 1 to 5 to rate your communication skills with the following statements with 1 meaning never and 5 meaning always.

When someone speaks to me at work,

1. ___ I pay attention.

2. ___ I wait until he/she is finished before responding.

3. ___ I am aware of the speaker's tone of voice.

4. ___ I am aware of the speaker's body language.

5. ___ I use active listening techniques such as nodding, eye contact.

6. ___ I try not to interrupt.

7. ___ I don't jump to conclusions or assume things.

8. ___ I ask questions if I don't understand.

9. ___ I use paraphrasing skills, if necessary.

10. ___ I try to see the situation from the speaker's point of view.

WORKPLACE POLICIES, PROCEDURES

Have you ever felt buried in information? Do you spend a lot of time reading, but miss the main point? Are you intimidated by technical terms and high-powered vocabulary? Do you feel you can't keep up with the rapid rate at which information changes or is revised? If so, this unit is for you. The competencies addressed in this unit can help you to obtain, evaluate, and use information more effectively.

"REFERENCING A TROUBLE-SHOOTING CHART"

COMPETENCIES

R-2 Skims, scans to locate information
R-5 Interprets charts, graphs, tables

ACTIVITY

A) Scan the following Trouble-Shooting Chart. Underline key words to answer the questions below. Circle cross-references if you are unable to find information under a key word.

QUESTIONS

1) The product is showing signs of scumming. You have used water to clean the plate, but it isn't doing the job. The rollers and blanket are correct. Name four possible causes for your problem.

2) The ink seems to be dry on the rollers. You think the solvents may have distorted them. What should you do?

"REFERENCING A TROUBLE-SHOOTING CHART"

3) **Your product is taking too long to dry, although there is nothing wrong with the ink. What else could be the problem?**

4) **Ink is being thrown off the press. You know that the ink and water are correct for the job. You suspect a problem with the rollers. What should you check?**

5) **The blanket has developed a relief image and the rollers have swollen. You know the correct type of rollers and blankets are being used. What is the problem and what should you do?**

TROUBLE SHOOTING CHART

THE PROBLEM:	PROBABLE CAUSES:	POSSIBLE REMEDIES:
POOR TRAPPING -- Superimposed links are being improperly laid down on the previously printed colors, causing poor color balance and poor overall appearance.	1. Tack of inks is out of sequence	1. Make sure inks are of proper, successively decreasing tacks.
	2. Strength of inks is improperly balanced. This can result in running one color full and the following color spare, in which case the second or spare color may not trap.	2. Reduce strength of ink if it is running too spare and carry a heavier film.
	3. Ink/water balance is poor	3. Achieve and maintain proper ink/water balance
	4. Underneath ink film is too heavy. Underneath colors should never run heavier than succeeding colors.	4. Run a thinner film, increasing ink strength accordingly. Be aware that, if not done properly, this may cause balance problems as indicated.
	5. Ink contains too much wax or other additives. Subsequent layers of ink may refuse to trap properly.	5. Consult your GPI salesman

TROUBLE SHOOTING CHART

THE PROBLEM:	PROBABLE CAUSES:	POSSIBLE REMEDIES:
INADEQUATE DRYING -- printed ink film is wet or tacky for an unreasonable length of time.	1. Ink is taking on too much water	1. Run press with less water
	2. Rollers are not properly conditioned or set	2. Thoroughly condition the roller system or reset (improperly set or poorly conditioned rollers promotes emulsification of ink).
	3. Stock is insufficiently porous or contains too much moisture	3. Switch to a more porous stock and/or stock containing less moisture.
	4. Ink is improperly formulated	4. Consult your GPI salesman
	5. Wrong pH of fountain solution	5. Adjust to proper pH

TROUBLE SHOOTING CHART

THE PROBLEM:	PROBABLE CAUSES:	POSSIBLE REMEDIES:
SCUMMING -- The inability of water to keep the non-Image area of the plate clean	1. Ink rollers of the wrong durometer (too soft or too hard)	1. Use proper rollers and check for glazing on the rollers and dirt on the dampeners.
	2. Ink or water form rollers set too tight	2. Check and reset rollers
	3. Ink fountain rollers improperly set	3. Use proper blanket
	4. Blanket of the wrong durometer	4. Correct packing
	5. Blanket over packed or not tight	5. Change to fresh wash-up solution
	6. Prolonged use of oily wash-up solution	6. Desensitize or remake plate
	7. Plate not properly desensitized	7. Adjust pH or gum balance
	8. Fountain solution out of balance	8. Clean or recondition ink rollers. Change or wash dampener covers
	9. Glazed ink or damping rollers	

TROUBLE SHOOTING CHART

THE PROBLEM:	PROBABLE CAUSES:	POSSIBLE REMEDIES:
TINTING -- Ink has emulsified into the water fountain. Pigment is being put on the plate from the water dampeners.	1. Wrong pH or imbalance in the fountain solution	1. Check and correct fountain solution
	2. Wrong roller durometer or setting	2. Use proper roller and check setting
	3. Prolonged use of a detergent wash-up solution	3. Wash up more thoroughly--(Remove detergent with water and/or petroleum solvent and change solution)
	4. Too much pressure between plate and blanket	4. Check and re-set
	5. Adulteration from some paper coatings contaminating the ink train	5. Use lowest tack ink possible, use lowest water setting possible, and use lowest pressure setting possible.
	6. Plate improperly exposed or developed	6. Check plate making procedures
	7. Improperly formulated ink	7. Consult your GPI ink salesman

TROUBLE SHOOTING CHART

PROBLEM:	PROBABLE CAUSES:	POSSIBLE REMEDIES:
POOR ROLLER TRANSFER AND/OR GLAZING The ink appears to dry on the rollers or the inking system seems to be unable to adequately transport the proper ink/water emulsion down the roller train onto the plate.	1. Improperly or inadequately cleaned rollers	1. Thorough clean up with good quality roller glaze remover. (To remove glaze, apply hot ink. This will remove gum glaze not soluble in standard wash-up solvents).
	2. Improperly set rollers Solvents may have distorted rollers	2. Adjust roller settings or check roller condition and replace bad rollers with more stable rollers.
	3. Rollers are not compatible with the ink	3. Consult your GPI salesman and roller salesman

TROUBLE SHOOTING CHART

PROBLEM:	PROBABLE CAUSES:	POSSIBLE REMEDIES:
BLANKET EMBOSSING AND ROLLER SWELLING The blanket develops a relief image of the image on the plate, and/or the rollers swell so that they no longer stay within their normal settings.	1. Dry, dead ink that has not fully transferred from the blanket to the paper can begin to build up, producing a relief image. This is caused by inadequate impression cylinder pressure or improper blanket packing. 2. The wrong type of rollers and blankets are being used	1. Adjust impression cylinder pressure and/or packing 2. Consult your GPI salesman and your blanket and roller salesman.

TROUBLE SHOOTING CHART

PROBLEM:	PROBABLE CAUSES:	POSSIBLE REMEDIES:
PREMATURE PLATE BLINDING A strong image area of the plate is progressively losing its receptivity to the ink.	1. Plate has been improperly prepared	1. Tighten controls over plate-making process
	2. Detergent has infiltrated the dampening system	2. Make sure all parts of dampening system that come in contact with detergent are thoroughly rinsed before being re-installed on press.
	3. The fountain solution is poorly balanced or improperly formulated	3. Check pH balance of fountain solution (it may be too acid). Make sure the right type of alcohol is being used.
	4. Plate cleaners or scratch removers have not been completely rinsed from the plate.	4. Avoid using excessive amounts of plate cleaner or scratch remover. Rinse plate thoroughly afterwards. Be sure all water, sponges, rags, etc. that come in contact with plate are clean. DO NOT LET CLEANERS DRY ON PLATE.

TROUBLE SHOOTING CHART

POSSIBLE REMEDIES: (CONTINUED)

5. Stock is depositing filler, coating or lint on blanket, affecting plates

6. Faulty or improperly set ink or dampening rollers wearing plate

7. Ink is not properly formulated

8. Plate is incompatible with the ink being used

9. Blanket is over-packed or loose

10. Foreign particles entering ink train

TROUBLE SHOOTING CHART

PROBLEM:	PROBABLE CAUSES:	POSSIBLE REMEDIES:
MISTING OR FLYING Fine droplets or filaments of ink are formed on the roller train during film splitting. Ink may form a fog, or it may actually be sprayed or thrown off the press.	1. Too much ink is being carried in an effort to achieve the desired density	1. Substitute a stronger ink and run a thinner film
	2. Rollers are worn or improperly set	2. Check rollers for damage; also check roller settings (check for extreme temperature build up on rollers)
	3. Roller train is affected by static electricity	3. Check to insure press properly grounded
	4. Running too much water	4. Run less water
	5. Ink is too long in body	5. Add anti-misting compound to shorten the body of the ink

TROUBLE SHOOTING CHART

PROBLEM:	PROBABLE CAUSES:	POSSIBLE REMEDIES:
DOT SPREAD The halftone dots increase in size, causing the printed signature to lack sharpness.	1. Improperly set rollers and pressures	1. Reset rollers and pressures
	2. Rollers or blankets too soft	2. Condition or replace rollers and blankets
	3. Ink is too long in body or too low in tack	3. Consult your GPI salesman
	4. Ink is too receptive to water	4. Check packing and pressure
	5. Blankets packed incorrectly or too much back cylinder pressure	5. Consult piling section
	6. Piling	6. Desensitize or remake plate
	7. Improper plate-making	

"REFERENCING A TROUBLE-SHOOTING CHART"
ANSWER KEY

1) **Causes for scumming other than incorrect rollers and blanket are: rollers or blanket set incorrectly, prolonged use of oily wash-up solution, plate not properly desensitized, fountain solution out of balance, or glazed ink, damping rollers.**

2) **Adjust roller settings or check roller condition and replace bad rollers with more stable rollers.**

3) **Ink could be taking on too much water, rollers could be improperly conditioned or set, stock could be insufficiently porous or contain too much moisture, or fountain solution could contain the wrong Ph.**

4) **Check rollers for damage; also check roller settings for extreme temperature build-up on rollers.**

5) **The problem is dry ink that has built up on the blanket.This can be caused by inadequate cylinder pressure or improper blanket packing. The solution is to adjust the impression cylinder pressure and/or packing.**

"UNEMPLOYMENT INSURANCE"

COMPETENCIES

R-2 Skims, scans to locate information
R-4 Identifies key vocabulary, definitions
R-6 Draws accurate conclusions

ACTIVITIES

A) Preview the following notice to employees. Then answer the following questions in complete sentences.

1) What should you do if you are laid off?

2) What should you do if your hours are cut?

3) What should you take with you when you go to the Employment Office?

4) If you are fired for excessive absences, can you receive unemployment benefits?

5) If a person lies on the claim form, what will happen?

6) Where does the money come from that is used for unemployment benefits?

B) Use the context to write definitions of these words.
Then use the words in a summary of the notice.

subject to eligible entitled partial

discrimination national origin criminal prosecution

STATE OF MARYLAND
DEPARTMENT OF EMPLOYMENT AND TRAINING
UNEMPLOYMENT INSURANCE ADMINISTRATION

THIS CARD MUST BE POSTED IN A CONSPICUOUS PLACE

IMPORTANT NOTICE

Unemployment insurance is intended for persons who are unemployed through no fault of their own and who are ready, willing, and able to work. Persons who receive benefits through false statements of failure to report ALL earnings will be disqualified and will be subject to criminal prosecution. To find out if you are qualified for unemployment insurance, you must fill out a claim form. Filling out a claim form does not guarantee that benefits will be paid. Any benefits paid are subject to a review of the reason(s) for unemployment or the reduction of work hours.

The Civil Rights Act of 1964 states that no person shall be discriminated against on the basis of race, color, religion, age, sex, or national origin. If you feel you have been discriminated against in the Unemployment Insurance process because of any of these reasons, you may file a complaint with the Office of Equal Opportunity, 1123 North Eutaw Street, Baltimore, Maryland 21201.

"UNEMPLOYMENT INSURANCE"
ANSWER KEY

1) If you are laid off you should fill out an unemployment claim form to see if you are entitled to benefits.

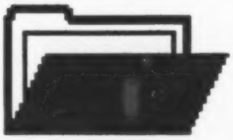
2) If your hours are cut you should fill out an unemployment claim form to see if you are entitled to benefits.

3) You should take with you a statement of earnings.

4) You cannot receive unemployment insurance if you are fired for excessive absences.

5) If you lie on the claim form you will be disqualified and subject to criminal prosecution.

6) Unemployment insurance comes from state funds.



"READING THE JOB JACKET"

COMPETENCIES

R-2 Skims, scans to locate information

ACTIVITY

A) Scan the following job jacket to answer the questions below.

QUESTIONS

1) What kind of paper is needed for the prescription forms?

2) Where is this paper located?

3) What is the standard size of the paper?

4) What is the finished size?

5) How many copies of the prescription forms will be made?

6) What color ink will be used for the prescription forms?

7) What is the quantity for the Doctors Note Pads?

8) What kind of paper is to be used?

9) What color ink is Burg.?

10) Can you run the whole job today? Why or why not?

R #: 4727

Date: 11-07-1990

Ord'd By: STEPHANIE
Phone No: [redacted]
CntrPers: PETE

Remainder of Job on Invoice 4728

| Proof:
| Due : Tue 11/13/90
| Time : Via: Deliver

ITEM DESCRIPTION	PAPER DESCRIPTION	BINDERY SERVICES	SERVICE	EST.QTY	ACT.QTY	COST	PRICE
tem1: PRESCRIPTION FORMS	PAPER: Carbonless	Cut : 1	Pa.Plate	1			
uant: 5,000	Descr: 2 part reverse	Pad : 1	Paper	5,190			
Orig: 1			Press	1:44			
RESS: One Color Press	From : Our stock		Bindery	1:05			
ont: Black	StdSz: 8.5 x 11						
ack :	FinSz: 5.5 x 8.5						
ash :	# Out: 2						
ovrg: Normal	# Up : 2						
egis: Normal							
regL: Normal	PrsSz: _____ x _____ 5190 sheets						

order
Remainder of Stock
Reorder

ITEM DESCRIPTION	PAPER DESCRIPTION	BINDERY SERVICES	SERVICE	EST.QTY	ACT.QTY	COST	PRICE
tem2: DOCTORS NOTE PADS	PAPER: Writing	Cut : 3	Paste-up	7			
uant: 1,000	Descr: 24# Classic Laid		Pa.Plate	1			
Orig: 1	: ANT. GRAY		Paper	281			
RESS: One Color Press	From : Our stock		Press	0:31			
ont: 1 Col. BURG	StdSz: 8.5 x 11		Bindery	0:14			
ack :	FinSz: 4.25 x 5.5						
ash : 1	# Out: 4						
Normal	# Up : 4						
Normal							
Normal	PrsSz: _____ x _____ 281 sheets						

Stock on Shelves
Reprint order

ITEM DESCRIPTION	PAPER DESCRIPTION	BINDERY SERVICES	SERVICE	EST.QTY	ACT.QTY	COST	PRICE
tem3: DOCT/PATIENT NOTE PADS	PAPER: Writing	Cut : 3	Pa.Plate	1			
uant: 1,000	Descr: 24# Classic Laid		Paper	281			
Orig: 1	: ANT. GRAY		Press	0:31			
RESS: One Color Press	From : Our stock		Bindery	0:14			
ont: 1 Col. BURG	StdSz: 8.5 x 11						
ack :	FinSz: 4.25 x 5.5						
sh : 1	# Out: 4						
vrg: Normal	# Up : 4						
gis: Normal							
gL: Normal	PrsSz: _____ x _____ 281 sheets						

Stock on Shelves
Reprint order

ITEM DESCRIPTION	PAPER DESCRIPTION	BINDERY SERVICES	SERVICE	EST.QTY	ACT.QTY	COST	PRICE
em4: ENVELOPES	PAPER: Env-Writing		Pa.Plate	1			
ant: 500	Descr: 24# Clas.Laid Env		Paper	548			
rig: 1	: ANT. GRAY		Press	0:38			
ESS: One Color Press	From : Our stock						
ont: 1 Col. BURG	StdSz: # 10						
ck :	FinSz: # 10						
sh : 1	# Out: 1						
vrg: Normal	# Up : 1						
gis: Normal							
gL: Normal	PrsSz: _____ x _____ 548 sheets						

Stock on Shelves

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PASTE-UP MT.PLATE PA.PLATE PAPER PRESS COPY OUTSIDE BUYOUT MISCL BINDERY

ITEM 1 ITEM 2 ITEM 3 ITEM 4 SUBTOTAL TAX SHIP TOTAL DEPOSIT BALANCE

waiting for 2 part
11-07-90

24-RCZ

"READING THE JOB JACKET"

1) Carbonless paper is needed for the prescription forms.

2) The paper is located in stock.

3) The standard size is 8.5 x 11.

4) The finished size is 5.5 x 8.5.

5) There will be 5,000 of the prescription forms run.

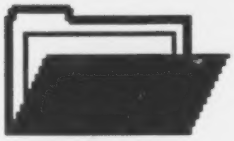
6) Black ink will be used for the prescription forms.

7) There will be 1,000 of the doctors note pads.

8) Writing paper is to be used for the doctors note pads.

9) Burg. is burgundy, a deep red color.

10) The whole job cannot be run today because the rest of the paper stock is on order.



"SMOKING POLICY"

COMPETENCIES

S-7	Interprets, explains information
R-3	Identifies main idea
R-4	Identifies key vocabulary, definitions
R-6	Draws accurate conclusions
W-2	Uses appropriate vocabulary
W-4	Summarizes information

ACTIVITY

A) You are friends with a newly hired employee of Crabcake Press. Your friend is concerned because he/she has heard that the smoking policy at Crabcake Press is about to change. Read the following smoking policy notice to interpret the changes for your friend. Consider the impact of the changes on the work load and work flow. Describe how the changes might impact the total work group.

B) Write a brief note to your friend summarizing the changes in the smoking policy.

C) Use the context or look up the meaning of unfamiliar vocabulary in the smoking policy notice to write definitions for the vocabulary words below. Use the words in your own sentences or in your own summary of the smoking policy.

VOCABULARY

incumbent

compliance

adhere

prohibited

accommodate

conducive

imperative

transition

SMOKING POLICY NOTICE

In recent months the need to address our smoking policy has arisen due to concerns expressed by some employees. This policy represents the recommendations of an advisory board consisting of representatives of both employees and management.

Effective July 1, 1994, smoking will be restricted to designated areas which will be clearly marked. Every effort will be made to accommodate the needs of all employees during this period of transition. However, it is incumbent upon each individual employee to adhere to the regulations on smoking. Smoking is prohibited in work areas, dining areas, and common areas in order to safeguard the health and well being of all employees and to ensure a comfortable environment conducive to productivity. Your compliance in using the designated smoking areas is requested.

"INFLUENCING SAFETY LEGISLATION"

COMPETENCIES

R-3 Identifies main idea
R-6 Draws accurate conclusions
W-9 Writes business correspondence

ACTIVITIES

A) Read the article, "Opposing OSHA's Motor Vehicle Safety Rule." List the pros and cons of the safety legislation.

B) Decide your position on the proposed legislation. Write a letter to your local representative expressing your views. Be sure to support your views.

February 1992

PUBLIC AFFAIRS

ADVISORY PRINTING INDUSTRIES OF AMERICA, INC.

Opposing OSHA's Motor Vehicle Safety Rule

THE PRINTING industry now has the attention of Congress, the White House, and the Occupational Safety and Health Administration (OSHA) about problems associated with the Motor Vehicle Safety Rule proposed by OSHA in the fall of 1990. PIA is the *only* industry group that has actively campaigned against the motor vehicle rule. The rule would require that all employers conduct driver training for all workers who drive, as well as establish corporate policies requiring seat belt use.

PIA launched a grassroots campaign against adoption of the motor vehicle safety proposal in the fall of 1991. By the beginning of 1992, the Government Affairs Department had received 363 copies of letters from printers sent to Congress and the White House.

The Facts

Statistics show that motor vehicle accidents represent the greatest occupational hazard. According to National Safety Council estimates for 1990, motor vehicle accidents accounted for one third of all occupational fatalities.

Motor vehicle accidents also represent a large number of nonwork-related deaths and injuries. Of the 46,300 accidental motor vehicle deaths in 1990, the National Safety Council estimated that 42,700 were due to nonwork related motor vehicle accidents, while 3,600 deaths resulted from motor vehicle accidents at work.

The Proposed Rule

Motor vehicle safety can definitely be improved. But should employers be made responsible for improving the statistics? That's what the new rule proposes.

The new motor vehicle safety rule would require all employers to direct employees to wear seat belts for all work-related driving, as well as provide motor vehicle safety training for workers who operate vehicles on the job. The seat belt provision is not objectionable except for its coverage of forklifts. Several studies have shown that forklift operators wearing seat belts experience a greater risk of head injury in a roll-over than those who do not wear them. Thus, the seat belt provision for forklifts could create more of a safety hazard for the operator.

The safety training courses are the crux of PIA's objection to the rule. The proposed rule states:

"Employers shall develop and implement a driver safety awareness program that provides for training in safe vehicle use for each employee who ... might be expected to use a particular class of motor vehicle as a part of that employee's official work assignment. Training shall include as a minimum, topics addressing vehicle familiarization, including the use of vehicle safety systems, the use of safety belts, the use of motorcycle helmets, and the effects of alcohol and other drugs on driver performance. The employer shall provide triennial employee driver refresher training to each employee."

Under the provisions of the rule, all employees who use a motor vehicle while on company time must be properly trained before they initially enter the vehicle and must receive refresher training every three years thereafter. Originally, the rule applied to all employees driving all vehicles, from truck drivers to sales representatives. OSHA is considering a change to the rule so that it will cover only those workers driving vehicles different from their own automobile, such as forklifts, tractors, or delivery vehicles.

Industry Activity

The more than 350 letters that printers have sent to Congress and the White House have generated concern over the rule among elected officials. The results clearly demonstrate that individuals can affect public policy when they act in an organized, coordinated effort.

The letters that PIA members have received from Congressional representatives are evidence that the voter may be the first to inform an elected official of a serious issue. A liberal Member of the House wrote to one printer, "I agree with you that there is no good reason to be imposing additional burdens on business at this time. I will be expressing my skepticism in this regard to OSHA, and I would not have done so had you not taken the time to bring it to my attention." Even some traditional opponents of business in Congress see that the rule is ill-advised.

Because of the number of letters that OSHA began receiving from Capitol Hill on the issue, the agency organized a Congressional forum on the rule so that Members of Congress and their staff could discuss the specific provisions of the rule. Later, OSHA invited PIA to meet with OSHA Administrator Jerry Scannell and other OSHA officials in an attempt to win the industry's support for the rule.

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"INK COVERAGE CHART"

COMPETENCIES

R-5 Interprets charts, graphs, tables
W-4 Summarizes information

ACTIVITIES

A) Read the information on the following page. Restate the information in your own words. Then write a brief summary of the information.

B) Interpret the following Lithographic Ink Coverage Chart to answer the questions below.

QUESTIONS

1) How many thousand square inches will be covered by Yellow Lake on Antique stock?

2) How many thousand square inches will be covered by Opaque Orange on Machine Finished stock?

3) How many thousand square inches will be covered by Tint Base on Newsprint?

4) If you are running short of ink, which would be better to use with Dull Coated stock, Bronze Blue or Persian Orange?

5) If you need to cover 300 thousand square inches of Litho Coated stock and only have one pound of ink, which colored inks could you use?

6) Based on the information on the bottom of the chart, what variables might affect how much ink is used and/or the accuracy of the information on this chart?

SHEET FED

LITHOGRAPHIC INK COVERAGE CHART

GRADE OF STOCK	Black	Purple	Bronze Blue	Milori Blue	Trans. Green	Opaque Green	Yellow Lake	Chrome & Lemon Yellow	Persian Orange	Opaque Orange	Semi-Trans. Red	Opaque Red	Tint Base	White	
Enamel #1	360	320	330	330	330	200	285	240	290	240	310	255	400	200	
Enamel #2	305	290	310	310	290	170	245	200	265	205	280	205	306	185	
Litho Coated	290	280	300	300	280	165	240	190	230	200	265	200	300	180	
Label	240	240	240	220	235	130	190	160	185	165	200	170	240	120	
Dull Coated	200	200	200	200	200	120	160	130	175	140	190	140	215	120	
Machine Finished	180	170	180	160	180	105	140	120	130	125	130	120	180	100	
Newsprint	150	150	150	140	160	110	130	105	110	105	110	105	160	105	
Antique	135	120	130	95	120	95	115	85	100	95	95	95	125	80	
Finished Offset	150	145	145	145	115	125	135	100	115	100	110	110	145	105	
Unfinished Offset	135	115	140	110	110	85	135	80	100	85	100	95	120	80	

The above figures represent, approximately, the number of thousand square inches that a pound of offset ink will cover. As the carefulness of the pressman in making ready and in setting the fountain has a bearing on the amount of ink required on the job, and as the affinity for ink varies with different paper stocks even in the same classification, it is evident that we cannot guarantee the above chart as absolutely correct.

30-RC

"INK COVERAGE CHART" ANSWER KEY

1) 115,000 square inches

2) 125,000 square inches

3) 160,000 square inches

4) It would be better to use Bronze Blue ink as it will cover 25,000 more square inches.

5) You could use Bronze Blue, Milori Blue, or Tint Base ink to cover 300,000 square inches.

6) The carefulness of the pressman in making ready and in setting the fountain, as well as the affinity of ink for different paper stocks will affect the coverage.

"TROUBLE-SHOOTING TABLE"

COMPETENCIES

R-2 Skims, scans to locate information

ACTIVITY

A) Skim the article, "Offset Trouble Symptoms," to complete the table below.

SYMPTOM	CAUSE	SOLUTION
Ghosting	blanket glazed from other job	clean, change blanket
Light print in non-image areas		
Halftone dot elongated or with tail		
Uneven impression		
Blanket surface cut, broken, or indented		
Hard, ink-resisting film on blanket that reflects printing		
Image areas sunken below surface		
Squashed print, halftone or screen areas appear to be plugging up		

To Wash a Blanket

A good rag, or any soft, absorbent material which does not shed lint or other particles is soaked with one of the petroleum solvents. The blanket is washed with one hand and dried with the other. As you wash the blanket, follow each stroke with a dry wipe. Do not use too much wash. It may seep under the blanket and soak the packing and the carcass back of the blanket. Many good washes are available. Every graphic arts supply house can recommend some.

High boiling solvents should be avoided due to their slow evaporation and tendency to leave residue. Other solvents to be avoided are carbon tetrachloride, carbon disulphide, turpentine, benzol and benzene and other coal tar or chlorinated solvents.

In some localities, local ordinances prescribe the use of solvents with high flash points to reduce fire hazards. These are often more harmful to the blanket surface than the more volatile solvents. They should be used sparingly, and the blanket surface should be wiped dry *immediately*.

Removing Glaze

There are some "blanket rejuvenators" available. Their effect is debatable. However, they do help remove stubborn glaze. Caution should be exercised in using them since they are high-solvent materials. Thorough cleaning and drying is necessary immediately after application.

Strong "rejuvenators" may tenderize the synthetic surface of the blanket making it porous or tacky, impairing print quality.

Another way to remove stubborn glazes that don't respond to regular washes is to pumice the blanket. A cloth is soaked with water or solvent and dipped in pumice powder (f or ff). Scrub blanket until all glaze is gone; then wash thoroughly with water.

In very stubborn cases, a mixture of pumice and caustic soda solution (4 oz. per gal. of water) may help. All traces of caustic soda must be removed afterward. Under no circumstances must the caustic soda be allowed to come in contact with the fabric back of the blanket. When working with caustic soda, gloves should always be worn to protect skin.

Removing Gum

Gum arabic that may fall onto the blanket from the plates can be removed *only* with water. It's important to remove it as soon as possible as it will dry to a very hard gum which prevents the blanket from inking properly.

4

CHAPTER 4

OFFSET TROUBLE SYMPTOMS

Printing in Non-Printing Areas

SYMPTOM: Image from a previous job may appear as a "ghost" in a solid printing area.

CAUSE: The blanket may be "embossed" or "glazed" as a result of ink-vehicle absorption during printing of a previous job.

CHECK: Close visual inspection of blanket. Feel for slightly raised areas. Check for shiny or slick areas. Change to new blanket, and if situation clears up, probably blanket condition.

REMEDY: If blanket is embossed or glazed, it must be vigorously scrubbed with pumice and blanket wash, hung to dry in dark area for several days and allowed to rest.

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SYMPTOM: Smears of ink in non-image areas, particularly during make-ready—*Catch-Up.*

CAUSE: Insufficient water on the plate. Can also be caused by a low spot in a dampener, or just improper setting.

CHECK: Check dampener settings, and water supply.

REMEDY: Add more water to plate, run off waste sheets until condition disappears. Reset dampeners to adjust supply of water, if necessary.

SYMPTOM: Light print in non-image areas, also shows up on the plate.

CAUSE: A surface chemical condition on the plate in which non-image areas take ink. Can be caused by high alkaline in surface of paper, emulsified ink caused by too much moisture in the inking rollers, inks containing pigments that bleed out, improperly set inking and dampening rollers or the wrong combination of chemicals used in the water fountain solution—*Scumming.*

CHECK: Pass a moistened fingertip over the non-printing area of plate. If it is a scumming condition, ink film will wipe off with ease.

REMEDY: To keep scumming conditions under control requires constant checking of the materials used. The checking of acid or alkaline paper surfaces is a must. Water and ink fountains should be checked for pH and adjusted where necessary.

SYMPTOM: Light print in non-image areas, also shows up on the plate.

CAUSE: Oxidized surface of the metal plate, a permanent condition caused by air, moisture, and chemicals. Can also result from excessive exposure to room light before processing in the plate room—*Tinting.*

CHECK: To prove a "tinting" condition, polish out a small area of plate with about 10 passes back and forth with polishing stone. Apply plate cleaner or etch to make polished area water-receptive, and run about 15 sheets. If newly polished area prints clean, it proves the rest of the plate has a "tinting" condition.

REMEDY: If above test proves "tinting" condition, plate must be remade.

Slurred Dot

SYMPTOM: Halftone dot, when examined under magnification, is elongated; or, in extreme cases may appear to have a comet-like tail.

CAUSE: Usually caused by improper impression "nip" at the point where blanket, paper and impression cylinder come together. May result from a blanket not being drawn up tight enough, or tightened so as to result in uneven tension across blanket face, such as when bars are not mounted square. Sometimes occurs when impression is too great, which in turn, may result from the blanket being swollen or embossed.

CHECK: Check blanket for proper tension. Check blanket bars to see that blanket is not pulling out (shows up as elongated holes under bar). Check blanket thickness, or suggest backing off a little on impression.

REMEDY: Adjust blanket tension or thickness as necessary. If blanket is embossed or swollen, replace with new, and suggest old blanket be thoroughly washed and rested. (See *Embossing.)*

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2: RCL

CAUSE: May be caused by distortion of the paper stock which is difficult to correct. Usually results from the impression squeeze which forces paper to flatten out in the same direction as grain (across cylinder), or from the stock taking on moisture. In either case, stock usually fans out toward the two trailing edge corners.

CHECK: Substitute alternate sheets of paper stock, preferably from a job which is currently running without trouble.

REMEDY: In minor cases, stock distortion can sometimes be corrected by adjusting the stops on the cylinders to force the edges of the sheet in toward the trailing edge. Better answer is to change stock. Offending paper stock can be repiled from top to bottom or hung up to condition in the hope that it will adjust to moisture conditions in the pressroom and then perform properly.

CAUSE: Insufficient ink tack. Ink is too "soupy" and cannot hold the sharp definition of dots or edge of solids.

CHECK: "Finger test" of ink tack will indicate soupy ink.

REMEDY: Replace with properly manufactured ink.

Light Printing Spot

SYMPTOM: Isolated areas print extremely light or not at all. Impression is uneven and excessive pressure is required to make all areas print—*Low Spots.*

CAUSE: Blanket is not offering a uniform thickness to the plate or paper.

CHECK: Measure gauge in non-printing area of blanket with packing gauge. If more than .001-inch less than specified gauge, probable low spot indicated.

REMEDY: Blanket must be packed-up with patching paper. Many times, low spot (if one exists) can be moved from printing area by turning blanket end for end.

REMARKS: This is a fairly common pressroom complaint and many times a legitimate one. If check with gauge fails to find low spot, check underpacking to make sure it is smooth and uniform in thickness. Also, check for uniform tension across width of cylinder as this may stretch a blanket in one area causing it to thin out. May also be caused by one or more warped cylinders, but as this is highly unusual, it is only a last resort probability.

SYMPTOM: Blanket surface is cut, broken or indented causing a non-printing area. Can be seen with the naked eye in extreme cases—*Smash.*

CAUSE: Accidental passage through the press of nails, wood chips, wads of paper, folded paper sheet, or any foreign object. Especially a problem with heavy-weight papers and paperboard.

CHECK: Visual inspection of blanket for marks on surface. Slight smashes over general areas caused by too great impression may have to be detected by thickness gauge.

REMEDY: Wash the low area thoroughly with blanket wash to make it swell as much as possible. Soak fabric back with water. Allow blanket to rest. Put paper patches under depressed areas to bring up to proper printing height. If blanket is cut or torn, or if above remedy does not help, replace with new blanket.

SYMPTOM: Hard, ink-resisting film on surface of blanket that rejects printing—*Glaze.*

CAUSE: Excessive absorption of ink-vehicle resulting from inadequate washing, oxidation or absorbed drying oils and driers, or accumulation of gum arabic.

CHECK: Light reflection on blanket shows shiny areas. Feels slick when finger is rubbed over surface.

REMEDY: Wash blanket with solvent and water. Allow to hang in dark area to rest, then scrub vigorously with pumice powder and solvent until glaze is removed.

REMARKS: Condition may indicate blanket is worn out in which case remedy above will not help and blanket will have to be replaced. Glazing can also be contributed to by excessive printing pressure, failure to properly wash up at end of press run, or ink problems.

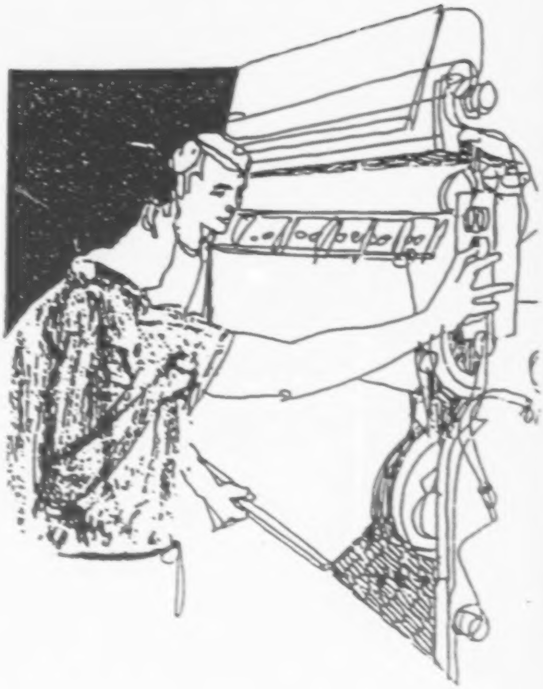
SYMPTOM: Image areas sunken below blanket surface—*Debossing.*

CAUSE: May be caused by blanket deterioration in the affected area, or by abrasive ink pigments (in an unbalanced ink) piling on the blanket and wearing it.

CHECK: Measure gauge in non-printing area of blanket with packing gauge. If more than .001-inch less than specified gauge, probable low spot indicated.

REMEDY: Blanket must be packed-up with paper. Many times, low spot (if one exists) can be moved from printing area by turning blanket end for end.

REMARKS: This is a fairly common pressroom complaint and many times a legitimate one. If check with gauge fails to find low spot, check under-packing to make sure it is smooth and uniform in thickness. Also, check for uniform tension across width of cylinder as this may stretch a blanket in one area causing it to thin out. May also be caused by one or more warped cylinders, but as this is highly unusual, it is only a last resort probability.



Heavy Print (Also "Filling Up")

SYMPTOM: Print appears to be *squashed,* halftone or screen areas appear to be plugging up.

CAUSE: Increased impression.

CHECK: Back off impression until situation improves. Check blanket for swelling or embossing.

REMEDY: If excessive backing off of impression is required, may indicate swollen or embossed blanket which must be replaced, washed and rested. Remove under-packing to alleviate pressure.

SYMPTOM: Print appears to be filling in, ink piling up on top of sheet.

CAUSE: Improperly set ink fountain. Also, can be caused by *Scumming,* stemming from too high alkalinity so that plate is building up ink deposit.

REMEDY: Requires complete wash-up of press and replacement of fountain solution.

SYMPTOM: Entire printing area very light with insufficient ink coverage.

CAUSE: Too much acid in the fountain water indicated by roller stripping, or by tendency of plate to scum prior to loss of image. (See *Scumming.*) (Preliminary cause of above symptom.)

REMEDY: Drain fountain and replace solution with one having a higher pH value—preferably between 5.0 and 6.0.

SYMPTOM: Entire printing area very light with insufficient ink coverage.

CAUSE: Deep-etch plate not completely developed. A thin film of gum still remains on the image areas. This gum eventually takes water and releases lacquer, and the image becomes grainy, spotted or "blind".

CHECK: (Requires expert assistance.)

REMEDY: None. Plate must be remade.

SYMPTOM: Entire printing area very light with insufficient ink coverage.

CAUSE: Ink is too "short" or is water-logged and is piling on the rollers, plate and blanket.

CHECK: Check rollers for heavy ink deposit.

REMEDY: "Lengthen" ink by adding water resistant varnish (make it less tacky). Cut fountain water to a minimum.

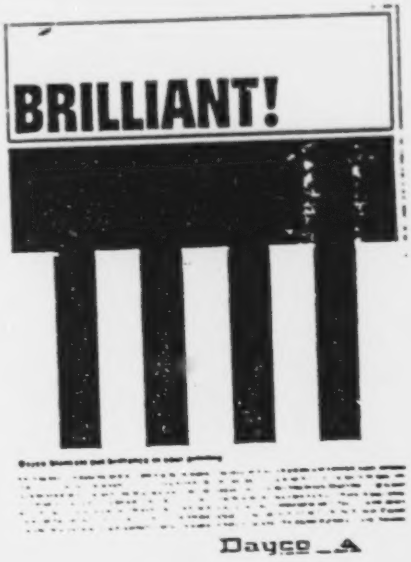
Negative Ghost

SYMPTOM: Ink starved printing area within a solid or near-solid area usually resulting from a "T" configuration of images on the plate (art-work). A series of lines or design elements run at right angles to a solid area, from bearer to bearer and so placed as to be ahead of it.

CAUSE: *Not a Blanket Problem!* Form rollers suffer from ink anemia and thus print light. Sometimes necessary when the print must go rapidly from heavy ink area to light area. The rollers must hold ink back to prevent flooding heavy area which thus starves light area.

CHECK: If printing image answers to description above and resembles pattern shown, probable cause of "ghost" is mechanical, not in blanket.

REMEDY: Although this is not actually a blanket problem, it can be helped somewhat by removing some of the packing from under the blanket, under solid portions, which are not part of the job. Then ink will build up on the extra inking areas of the plate, and, as the form rollers pass over them, they will pick up the extra ink to smother the "ghost".



Specks in Print (Hickies)

SYMPTOM: Small specks in print, usually in solids, sometimes appearing as white specks, sometimes with comet-like tails, and sometimes solid centers with ellipses forming outer circles. May come and go, shift around or remain constant in just one area.

CAUSE: Foreign particle somewhere on blanket, plates or rollers which prevent proper ink transfer. Can be caused by small particles of paper

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coating which flake off sheets, dried particles of ink from rollers, lint or fuzz from paper or dampener rollers.

CHECK: Visual inspection of blanket, plate and rollers. Examine paper stock for dirt, lint or foreign particles.

REMEDY: Thorough cleaning of blanket, plate and rollers. If ink is caking off rollers, indicates poor wash-up and requires complete wash-up. If blanket has become tacky and is pulling coating or lint off paper stock, should be replaced with new blanket. Sometimes changing to a harder blanket and softening the ink will clear up the trouble. If "hickies" are resulting from lint or fuzz off new dampeners, this condition will clear itself up, as it is not unusual. If paper stock is defective or dirty, it must be replaced or cleaned.

Special Note: It is not uncommon in many pressrooms to find the use of "hickey-picker" rollers. These rollers have a "nap" surface that help the pressman to overcome the hickey problem. They may be installed in place of a form roller; however, the construction of the roller itself may vary the position. A coarse nap will work well in the first position; a medium nap is preferred for the middle; and a fine finish nap is necessary for the last form.

The accessibility of the form rollers usually dictates the position of the hickey-picker roller.

Certain types of sleeve-type hickey-picker rollers have a disadvantage of a seam which affects print quality.

The Dayco Do-Hickey roller is manufactured of rubber impregnated with special fibers that do not wear off the surface. It can be reground a number of times. Cleaning usually is effected with a fine steel brush or emery cloth. It may be cleaned with a good commercial wash.

Streaks Across Cylinder

SYMPTOM: Light streaks across in same direction as length of cylinders. *Not a Blanket Problem.*

CHECK: These streaks are easily visible.

CAUSE: Usually a problem stemming from roller slippage when they are not properly set. Can also be caused by too greasy an ink which again, causes rollers to slip.

REMEDY: Adjust rollers.

Mottled Print

SYMPTOM: Screen areas or solids are uneven and have a mottled appearance.

CAUSE: Usually a problem stemming from poor ink distribution.

REMEDY: Strengthen ink, cut down water.

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27-RC-2

"WORKERS' COMPENSATION"

COMPETENCIES

R-6 Draws accurate conclusions
W-4 Summarizes information
W-8 Writes reports

ACTIVITIES

A) Carefully read the company policy on workers' compensation to find the answers to the questions below.

B) Write a note to your supervisor reporting an on-the-job injury.

QUESTIONS

1) Who provides the money for workers' compensation?

2) Who decides how much an injured worker will receive?

3) Why is it important to report any on-the-job-injury?

4) If you are hurt on the job and can't do your regular work, what can Crabcake Press do?

SAFETY SHOES

Because of our strong concern for your safety, we require that all employees in our Press, Flat Storage, Receiving, Distribution, Finishing and Maintenance departments wear steel-toed safety shoes. We will pay 80% (up to a maximum of $60.00 each calendar year) toward the cost of safety shoes for all regular, full-time plant employees. Please discuss the type of footwear that is required in your department with your supervisor.

TUITION REIMBURSEMENT

To enable you to further your education in the graphic arts, management, and other printing-related fields, Press offers a continuing education policy.

Regular, full-time employees with at least 90 calendar days of service are eligible to participate in this program. Course work *must be approved in writing in advance* and relate, in the company's judgment, to your present position or provide skills for career mobility within the firm. You should see your supervisor for more information regarding this important developmental program and required approvals.

WORKERS' COMPENSATION BENEFITS

In the event of an occupational injury, you may be eligible for workers' compensation benefits.

While the cost of workers' compensation insurance is paid by benefits are paid according to guidelines established by the Maryland Workers' Compensation Commission. Detailed information about the law and your compensation rights is available through our Personnel Department.

No matter how minor the accident may seem at the time, it is absolutely essential that you report any on-the-job injury to your supervisor during the shift in which the accident occurred.

After an on-the-job injury, Press will provide the involved employee light work, if applicable, to speed the employee's return to regular work.

"WORKERS' COMPENSATION"
ANSWER KEY

1) The cost of workers' compensation is paid for by Crabcake Press.

2) The Maryland Workers' Compensation Commission decides the benefits an injured worker will receive.

3) It is important to report any on-the-job injury when it happens in order to be eligible for workers's compensation benefits should the need for medical care or treatment arise.

4) If you cannot return to your regular work, Crabcake Press can provide light work for you.

"PADDING DIRECTIONS"

COMPETENCIES

R-2 Skims, scans to locate information

ACTIVITY

A) Read the following padding instructions label to answer the questions below.

QUESTIONS

1) What is the first thing you are to do?

2) What is the second thing you are to do?

3) Why should you place the fanned and jogged paper on a flat surface?

4) How long should the weight distribution board be?

5) What kind of strokes should you use in applying adhesive?

6) What is meant by a "uniformly wet and glossy appearance?"

7) How long does it take for most paper to dry?

8) What is meant by a "liberal amount?"

9) What would be closer to "approximately two hours?"

a. 180 minutes b. 110 minutes
c. 210 minutes d. 260 minutes

PADDING DIRECTIONS

1. Jog all sheets to the edge to be padded. For best results, pre-trim with sharp knife and reintroduce air into the stack by fanning.
2. Place fanned and jogged paper on a flat surface or in a rack so edge to be padded does not overhang supporting base.
3. Place weight distribution board on top of stack of paper, flush with edge to be padded. Board should be longer than edge to be padded so entire edge is compressed uniformly.
4. Place enough weight on weight distribution board flush with edge to be padded to restrict paper separation at both corners to approximately 1/8 inch.
5. Apply a liberal amount of adhesive with horizontal strokes across the stack until the surface has a uniformly wet and glossy appearance. Apply adhesive going from bottom to top of the stack.
6. Usually stack can be fanned apart in 30 minutes (Sprint sheets slightly longer) after application. Complete drying and bonding occurs in approximately two hours.

"PADDING DIRECTIONS"
ANSWER KEY

1) The first step is to pre-trim all sheets with a sharp knife and reintroduce air into the stack by fanning.

2) The second step is to join all sheets to the edge to be padded.

3) You are to place the fanned and jogged paper on a flat surface so that the edge to be padded does not overhang the supporting base.

4) The weight distribution board should be longer than the edge to be padded so the entire edge is compressed uniformly.

5) Use horizontal strokes to apply the adhesive.

6) Glossy means shiny.

7) Most paper dries in approximately two hours.

8) A liberal amount means a generous amount.

9) 110 minutes is approximately two hours.

"FEDERAL WITHHOLDING"

COMPETENCIES

S-7	Interprets, explains information
R-1	Previews written material
R-2	Skims, scans to locate information
R-3	Identifies main idea
W-4	Summarizes information
W-7	Completes forms accurately

ACTIVITIES

A) Read the following memo about federal withholding taxes carefully. You decide that you want to increase the amount withheld from your paycheck. Complete the following W-4 form according to the instructions.

B) Verbally summarize the information contained in the memo and the W-4 form for a fellow employee who is having difficulty understanding the memo and/or the W-4 form.

C) Write a note to summarize the information contained in the memo and the W-4 form for a fellow employee who is having difficulty understanding the memo and/or the W-4 form.

May 27, 1994

TO ALL EMPLOYEES:

As President Clinton announced in his State of the Union address on January 28th, employers are required to withhold federal income taxes based on new withholding tables beginning March 1, 1994. In most cases, these new tables will result in an increase in your take-home pay because of lower required federal income tax withholding. However, it is important to note that federal income tax rates have not been reduced. The increase in your weekly paycheck will have one of the following results dependent upon your own personal situation.

- If you expect to receive a refund when you file your 1994 federal income tax return, the amount of the refund will be reduced by the additional amount you will receive in your weekly paycheck starting March 1, 1994.

OR If you expect to owe additional taxes when you file your 1994 federal income tax return, the amount you owe will be increased by the additional amount you will receive in your weekly paycheck starting March 1, 1994.

Generally, if you claim married withholding rates, the new withholding tables will result in a reduction in taxes held and a corresponding increase in your take-home pay of approximately $8.00 per week. If you claim single, the new tables will result in a reduction in taxes withheld and a corresponding increase in your take-home pay of approximately $4.00. High income wage earners will not see a change in their withholding.

Remember, although your withholding will be lower using the revised tables, these new rules will not change your 1994 tax liability. Therefore, if you want to keep the dollar amount of your withholding the same after March 1st, you must submit a revised Form W-4 to the Personnel Department. Complete the revised Form W-4 by claiming your current marital status and withholding allowances. On line 5, insert the additional amount of federal taxes you wish withheld from your weekly paycheck.

If you have any questions, please let me know.

Personnel Manager

1989 Form W-4

Department of the Treasury
Internal Revenue Service

Purpose. Complete Form W-4 so that your ver can withhold the correct amount of income tax from your pay.

on From Withholding. Read line 6 of the cate below to see if you can claim exempt atus. If exempt, only complete the certificate; but do not complete lines 4 and 5. No Federal income tax will be withheld from your pay.

Basic Instructions. Employees who are not exempt should complete the Personal Allowances Worksheet. Additional worksheets are provided on page 2 for employees to adjust their withholding allowances based on itemized deductions, adjustments to income, or two-earner/two-job situations. Complete all worksheets that apply to your situation. The worksheets will help you figure the number of withholding allowances you are entitled to claim. However, you may claim fewer allowances than this.

Head of Household. Generally, you may claim head of household filing status on your tax return only if you are unmarried and pay more than 50% of the costs of keeping up a home for yourself and your dependent(s) or other qualifying individuals.

Nonwage Income. If you have a large amount of nonwage income, such as interest or dividends, you should consider making estimated tax payments using Form 1040-ES. Otherwise, you may find that you owe additional tax at the end of the year.

Two-Earner/Two-Jobs. If you have a working spouse or more than one job, figure the total number of allowances you are entitled to claim on all jobs using worksheets from only one Form W-4. This total should be divided among all jobs. Your withholding will usually be most accurate when all allowances are claimed on the W-4 filed for the highest paying job and zero allowances are claimed for the others.

Advance Earned Income Credit. If you are eligible for this credit, you can receive it added to your paycheck throughout the year. For details, obtain Form W-5 from your employer.

Check Your Withholding. After your W-4 takes effect, you can use **Publication 919, Is My Withholding Correct for 1989?**, to see how the dollar amount you are having withheld compares to your estimated total annual tax. Call 1-800-424-3676 (in Hawaii and Alaska, check your local telephone directory) to obtain this publication.

Personal Allowances Worksheet

A Enter "1" for yourself if no one else can claim you as a dependent . . . . A ______

B Enter "1" if: { 1. You are single and have only one job; or 2. You are married, have only one job, and your spouse does not work; or 3. Your wages from a second job or your spouse's wages (or the total of both) are $2,500 or less. } . . . . B ______

C Enter "1" for your **spouse**. But, you may choose to enter "0" if you are married and have either a working spouse or more than one job (this may help you avoid having too little tax withheld) . . . . C ______

D Enter number of **dependents** (other than your spouse or yourself) whom you will claim on your tax return . . . D ______

E Enter "1" if you will file as a **head of household** on your tax return (see conditions under "Head of Household," above) . . E ______

F Enter "1" if you have at least $1,500 of **child or dependent care expenses** for which you plan to claim a credit . . . . F ______

G Add lines A through F and enter total here . . . . ▶ G ______

r accuracy, do worksheets that apply.

- **If you plan to itemize or claim adjustments to income and want to reduce your withholding,** turn to the Deductions and Adjustments Worksheet on page 2.
- **If you are single and have more than one job and your combined earnings from all jobs exceed** $25,000 OR if you are **married and have a working spouse or more than one job, and the com**bined earnings from all jobs exceed $40,000, then turn to the Two-Earner/Two-Job Worksheet on page 2 if you want to avoid having too little tax withheld.
- **If neither of the above situations applies to you,** stop here and enter the number from line G on line 4 of Form W-4 below.

- - - - - - - - - - **Cut here and give the certificate to your employer. Keep the top portion for your records.** - - - - - - - - - -

Form **W-4**
Department of the Treasury
Internal Revenue Service

Employee's Withholding Allowance Certificate

▶ **For Privacy Act and Paperwork Reduction Act Notice, see reverse.**

OMB No. 1545-0010
1989

1 Type or print your first name and middle initial   Last name   2 Your social security number

Home address (number and street or rural route)

City or town, state, and ZIP code

3 Marital Status { ☐ Single ☐ Married ☐ Married, but withhold at higher Single rate.
Note: *If married, but legally separated, or spouse is a nonresident alien, check the Single box.*

4 Total number of allowances you are claiming (from line G above or from the Worksheets on back if they apply) . . . 4 ______

5 Additional amount, if any, you want deducted from each pay . . . . 5 $ ______

6 I claim exemption from withholding and I certify that I meet ALL of the following conditions for exemption:

- Last year I had a right to a refund of ALL Federal income tax withheld because I had NO tax liability; AND
- This year I expect a refund of ALL Federal income tax withheld because I expect to have NO tax liability; AND
- This year if my income exceeds $500 and includes nonwage income, another person cannot claim me as a dependent.

If you meet all of the above conditions, enter the year effective and "EXEMPT" here . . . . . . ▶ 6 19

7 Are you a full-time student? (Note: *Full-time students are not automatically exempt.*) . . . . 7 ☐ Yes ☐ No

Under penalties of perjury, I certify that I am entitled to the number of withholding allowances claimed on this certificate or entitled to claim exempt status.

oyee's signature ▶   Date ▶   , 198

ployer's name and address (Employer: Complete 8 and 10 only if sending to IRS)   9 Office code (optional)   10 Employer identification number

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"FEDERAL WITHHOLDING VOCABULARY"

COMPETENCIES

R-4 Identifies key vocabulary, definitions
W-2 Uses appropriate vocabulary

ACTIVITIES

A) Use context clues in the memo on tax withholding and the W-4 form or a dictionary to write definitions for the following terms.

B) Write sentences for each of the following terms.

C) Use the following terms in a brief paragraph.

VOCABULARY

- dependent
- exempt
- estimated
- earned income credit
- liability
- itemized
- submit
- spouse
- dividends
- corresponding

"MATERIAL SAFETY DATA SHEET 1"

COMPETENCIES

R-2	**Skims, scans to locate information**
R-4	**Identifies key vocabulary, definitions**
R-6	**Draws accurate conclusions**

ACTIVITY

A) **Skim the following Material Safety Data Sheet to answer the questions below.**

QUESTIONS

1) **What is the name of this material?**

2) **How would you put out a fire containing this material?**

3) **What precautions should be taken when handling this material?**

4) **What should you do if this material got on your skin?**

5) **What could happen if fumes from this product are continually breathed?**

/

AMERICAN HOECHST CORPORATION

MATERIAL SAFETY DATA SHEET

DATE OF PREPARATION
January 14, 1981

Section I

MANUFACTURER'S NAME	Enco Printing Products
STREET ADDRESS	50 Meister Avenue (P.O. Box 3700)
CITY, STATE, AND ZIP CODE	Somerville, NJ 08876
EMERGENCY TELEPHONE NO.	(201) 231-2244
TRADE NAME	One-Step Negative Machine Developer/Finisher
PRODUCT CLASS	Lithographic Plate Processing Solution
MANUFACTURING IDENTIFICATION	One-Step Negative Machine Developer/Finisher

Section II HAZARDOUS INGREDIENTS

INGREDIENT	NATURE OF HAZARD	PERCENT	TLV PPM	TLV MG/M^3	TLV MPPCF	LEL	UEL	LD_{50}
-Propanol	Inhalation - Fire	20.	200 (skin)	N.A.	N.A.	2.1%	13.5%	3.0 gm per kg (rat)

Section III-PHYSICAL DATA

LING Range:	80 - 85°C	MELTING POINT	N.A.
APOR DENSITY (AIR = 1)	Heavier than air	PERCENT VOLATILE	88%
ECIFIC GRAVITY	1.016	EVAPORATION RATE	Slower than ether

Section IV-FIRE AND EXPLOSION HAZARD DATA

OT CATEGORY	Alcohol solution, N.O.S. Flammable Liquid UN 1987	FLASH POINT 93°F. closed cup	LEL unknown	UEL unknown

XTINGUISHING MEDIA

Water, alcohol foam, carbon dioxide, dry chemical.

NUSUAL FIRE AND EXPLOSION HAZARDS None

L FIRE FIGHTING PROCEDURES None

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THRESHOLD LIMIT VALUE See Section II Toxicity See Section II /

EFFECTS OF OVEREXPOSURE
Irritating to eyes and mucous membranes:
Prolonged inhalation of n-Propanol vapors in excess of TLV may, in some persons, result in temporary discomfort, headache, or nausea.

EMERGENCY AND FIRST AID PROCEDURES
Eye contact: Wash continuously for 15 minutes with large amounts of water.
Contact Physician.
Skin contact: Wash with soap and water.

Section VI-REACTIVITY DATA

STABILITY	☒ STABLE	☐ UNSTABLE
INCOMPATABILITY (Materials to avoid)	None.	
CONDITIONS TO AVOID	Excessive heat.	
HAZARDOUS POLYMERIZATION	☐ MAY OCCUR	☒ WILL NOT OCCUR
CONDITIONS TO AVOID	None.	

Section VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Eliminate all sources of ignition. Flush with water or collect using absorbent material.

WASTE DISPOSAL METHOD
Conform to local regulations. Can usually be discharged to sewer.

Section VIII-SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION None with adquate ventilation.

VENTILATION Local exhaust recommended.

PROTECTIVE GLOVES Rubber gloves recommended.

EYE PROTECTION Safety glasses or goggles recommended.

OTHER PROTECTIVE EQUIPMENT Suitable clothing to avoid skin contact.

Section IX-SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Store in original container. Keep tightly sealed.

OTHER PRECAUTIONS
Standard safety precautions for chemical handling should be observed.

Product Safety Committee
American Hoechst Corporation
Route 202-206 North
Somerville, New Jersey 08876

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"MATERIAL SAFETY DATA SHEET 1"
ANSWER SHEET

1) The material is one-step negative machine developer/finisher.

2) You could extinguish a fire with this material with water, alcohol foam, carbon dioxide, or dry chemical.

3) Rubber gloves, safety goggles, and suitable clothing to avoid skin contact are recommended.

4) If this material contacts your skin wash with soap and water.

5) If fumes from this product are continuously breathed temporary discomfort, headache, or nausea could result.

"MATERIAL SAFETY DATA SHEET VOCABULARY 1"

COMPETENCIES

R-4 Identifies key vocabulary, definitions
W-2 Uses appropriate vocabulary
W-4 Summarizes information

ACTIVITIES

A) Use context clues, a dictionary, thesaurus, or the Pocket Pal to write definitions for the vocabulary words below.

B) Use the vocabulary words below in sentences.

C) Use the vocabulary words below to write a brief summary of the information on the following Material Safety Data Sheet.

VOCABULARY

lithographic
inhalation
volatile
specific gravity

"MATERIAL SAFETY DATA SHEET 2"

COMPETENCIES

R-2 Skims, scans to locate information
R-4 Identifies key vocabulary, definitions
R-6 Draws accurate conclusions

ACTIVITY

A) Skim the following Material Safety Data Sheet to answer the questions below.

QUESTIONS

1) What is this material?

2) What does this material look like?

3) What type of health hazard does this material pose?

4) Will this material catch fire? How do you know?

5) When was the form for this Material Safety Data sheet created?

6) What could result if this material is swallowed?

7) What should you do if someone swallows this material?

8) What should be done if this material is spilled?

9) Is this material incompatible with any other materials?

10) Could you tell if this material were mixed with water?

HAZARD RATINGS	
HEALTH	1
FLAMMABILITY	3
REACTIVITY	0

SOHN MFG., INC.
MATERIAL SAFETY DATA SHEET

HAZARD RATINGS	
Minimal	0
Slight	1
Moderate	2
Serious	3
Severe	4

2

SECTION I

REVISED 3/14/87

SOHN PRODUCT NAME: TYPE B CLEANER/FAST REDUCER

DATE PREPARED: 10/22/85

SOHN PRODUCT NUMBER: 04-00200

DISTRIBUTED BY SOHN MFG., INC.

EMERGENCY TELEPHONE NO: 414-876-3361

ADDRESS (Number, Street, City, State and Zip Code): P.O. BOX X, INDUSTRIAL PARK, ELKHART LAKE, WI 53020

SOHN D U N S NO: 00-610-3972

HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD ID NO (49 CFR 172 101): Denatured Alcohol, Denatured Alcohol, Flammable Liquid, NA-1986

CHEMICAL NAME: ETHANOL (Denatured)

CHEMICAL FAMILY: ALCOHOLS

FORMULA: N/A

SECTION II — INGREDIENTS
(list all ingredients)

CAS REGISTRY NO	%W	%V	CHEMICAL NAME(S)	Listed as a Carcinogen in NTP, IARC or OSHA 1910(z) (specify)
64-17-5			ETHYL ALCOHOL 81.3% By Volume	No
67-63-0			ISOPROPANOL 9.0% By Volume	No
67-56-1			METHYL ALCOHOL 4.2% By Volume	No

SECTION III — PHYSICAL DATA

BOILING POINT °F 78.5 °C		SPECIFIC GRAVITY (H₂O=1) .808			
VAPOR PRESSURE @ °F °C 40 mm Hg psi		PERCENT VOLATILE BY VOLUME (%) 100%		PERCENT SOLID BY WEIGHT (%)	N/A
VAPOR DENSITY (AIR=1)	1.6	EVAPORATION RATE (Butyl Acetate = 1)	3.2		
SOLUBILITY IN WATER	100%	pH=	N/A		

APPEARANCE AND ODOR: Clear Liquid; Characteristic Odor.

IS MATERIAL: [✓ LIQUID] SOLID GAS PASTE POWDER

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT 53 °F °C method used TCC

FLAMMABLE LIMITS: LEL 2.0 UEL 19.0

EXTINGUISHING MEDIA: Use carbon dioxide or dry chemical for small fires. Use alcohol type foam or water for large fires.

ECIAL FIRE FIGHTING PROCEDURES

None

UNUSUAL FIRE AND EXPLOSION HAZARDS

Autoignition Temperature 793° F.

305

Form No. 518 s1 10/85

SECTION V — HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE — Conditions to Avoid	THRESHOLD LIMIT VALUE ☐ PERMISSIBLE EXPOSURE LIMIT ☐ 1,C

Swallowing liquid causes inebriation, headache, nausea, and vomiting
Liquid causes eye irritation. Breathing of vapors may cause drowsine

PRIMARY ROUTES OF ENTRY Inhalation X Skin Contact X Other (specify)

EMERGENCY AND FIRST AID PROCEDURES
Flush skin & eye contact with plenty of water. If inhaled remove to
air; give artificial respiration if breathing has stopped. Call a ph
if swallowed, induce vomiting.

SECTION VI — REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	Avoid heat, sparks, and open flame.

INCOMPATIBILITY (materials to avoid)
None

HAZARDOUS DECOMPOSITION PRODUCTS:
Thermal decomposition or burning may produce carbon monoxide and/or

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	None

SECTION VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Flush heavily with water.

WASTE DISPOSAL METHOD
Incinerate

CERCLA (Superfund) REPORTABLE QUANTITY (in lbs) N/A

RCRA HAZARDOUS WASTE NO. (40 CFR 261.33) N/A

VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water) N/A

Theoretical N/A lb/gal Analytical N/A lb/gal

SECTION VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)
Air-supplied mask in confined areas.

VENTILATION	LOCAL EXHAUST Preferred	SPECIAL N/A
	MECHANICAL (General)	OTHER N/A

PROTECTIVE GLOVES Plastic Gloves EYE PROTECTION Monogoggles

OTHER PROTECTIVE EQUIPMENT
Eye Bath and Safety Shower

SECTION IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
WARNING! FLAMMABLE. Contains ingredients which render this product whol
unfit for beverage purpose; if taken internally will cause serious

OTHER PRECAUTIONS consequences. Keep away from heat, sparks, and open flam
Keep container closed. Use with adequate ventilation.

FOR INDUSTRIAL USE ONLY.

Form No. 518-s2 10/85

"MATERIAL SAFETY DATA SHEET 2"
ANSWER KEY

1) This material is Type B Cleaner/Fast Reducer, Denatured ethanol alcohol.

2) This material is a clear liquid.

3) This material poses a Type 1 or slight health hazard.

4) This material will catch fire. It has a Type 3 or serious flammability potential.

5) This version of the form was created on 3/14/87.

6) If this material is swallowed inebriation, headache, nausea, and vomiting may occur.

7) If someone swallows this material you should induce vomiting.

8) If this material is spilled you should flush the area heavily with water.

9) This material is not incompatible with any other material.

10) You could not tell by sight if the material were mixed with water, but it does have a characteristic smell.

"MATERIAL SAFETY DATA SHEET VOCABULARY 2"

COMPETENCIES

R-4	Identifies key vocabulary, definitions
W-2	Uses appropriate vocabulary
W-4	Summarizes information

ACTIVITIES

A) Use context clues, a dictionary, thesaurus, or the Pocket Pal to write definitions for the vocabulary words below.

B) Use the vocabulary words below in sentences.

C) Use the vocabulary words below to write a brief summary of the information on the following Material Safety Data Sheet.

VOCABULARY

vapor
thermal
inebriation
render
autoignition
solubility
decomposition
polymerization
ventilation
extinguishing media
incinerate
flammable
carcinogenic

"MATERIAL SAFETY DATA SHEET 3"

COMPETENCIES

R-2	Skims, scans to locate information
R-4	Identifies key vocabulary, definitions
R-6	Draws accurate conclusions

ACTIVITY

A) Skim the following Material Safety Data Sheet to answer the questions below.

QUESTIONS

1) What is this material?

2) How many ingredients make up this material?

3) What is the main ingredient by volume?

4) What is the smallest ingredient by volume?

5) What is the EPA classification for this material?

6) What do you do if this material spills?

7) What are the health effects of inhaling this material?

8) What are the health effects of swallowing this material?

9) What special precautions are suggested?

10) How would you dispose of this material?

DATA SHEET

St. Paul, Minnesota 55144
(612) 733-1110

DUNS NO.: 00 617 308

Form 15883-C PWD

Chemical Family	Trade Name 3M DUPLICATOR FOUNTAIN CONCENTRATE
3M I. D. Number 77-9800-7230-8	Printing & Reprographic Products 53.611

1. INGREDIENTS

	CAS. #	%	TLV® (unit)
Ethylene Glycol	107-21-1	25-30	100 ppm
Formaldehyde	50-00-0	< 5	2 ppm
Glycerol		25-30	10 mg/m^2 as m
Inorganic Acid and Buffer		< 3	N/A
Water		30-40	N/A

2. PHYSICAL DATA

Boiling Point		Solubility in Water	Soluble
Vapor Pressure		Specific Gravity (H_2O=1)	1.1
Vapor Density (Air = 1)		Percent Volatile	50-60
Evaporation Rate (=1)		pH	3.3 - 4.0

Appearance and Odor Blue-clear; Alcohol odor

3. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Test Method) Non-Flammable

Flammable Limits: LEL = UEL =

Extinguishing Media CO_2, Foam, Dry chemicals

Special Fire Fighting Procedures

Unusual Fire and Explosion Hazards Contains glycerol; contact with strong oxidizers may produce

4. ENVIRONMENTAL INFORMATION

Spill Response

Collect spilled material. Wash down area with water as necessary.

Recommended Disposal

Commercial incineration with destruction and removal efficiency greater than 99.99%, or reclamation is preferred. Otherwise, dispose in accordance with local and current U.S. Environmental Protection Agency regulations.

Environmental Data

EPA Hazardous Waste Number: Nonhazardous

Threshold Limit Values listed above are current to 1982. Because they are reviewed yearly by ACGIH and subject to change (usually to a lower value), it is necessary for the user of this Material Safety Data Sheet to maintain a list of revised TLV's and update the sheet periodically.

3

Eye Contact

Liquid may cause eye irritation.

Skin Contact

Liquid may cause skin irritation.

Inhalation

Excessive vapor exposure is unlikely due to the low vapor pressure of ethylene glycol. Central nervous system depression and mild eye and respiratory irritation are effects of excessive exposure.

Ingestion

Harmful or fatal if swallowed.

Suggested First Aid

Eye Contact: Flush eyes with large amounts of water for at least ten minutes and call a physician.
Skin Contact: Wash affected area with soap and water.
Ingestion: Induce vomiting immediately and call a physician.

6. REACTIVITY DATA

STABILITY	☐ Unstable ☒ Stable	Conditions to Avoid
INCOMPATABILITY		Materials to Avoid
HAZARDOUS POLYMERIZATION	☐ May Occur ☒ May Not Occur	Conditions to Avoid

Hazardous Decomposition Products

7. SPECIAL PROTECTION INFORMATION

Eye Protection Recommended	Skin Protection Impervious gloves (rubber)

Ventilation
Sufficient to control ethylene glycol vapor at or below TLV.

Respiratory and Special Protection

Other Protection

8. PRECAUTIONARY INFORMATION

Avoid eye and skin contact. Do not take internally. Keep out of reach of children. Wash hands after use. Avoid breathing vapors.

9. DEPARTMENT OF TRANSPORTATION

DOT Proper Shipping Name Not Applicable	DOT Hazard Class Not Applicable

Issue Date	Supersedes
Sept. 1982	Oct. 1'

The information on this Data Sheet represents our current data and best opinion as to the proper use in handling of this product under normal condition
use of the product which is not in conformance with this Data Sheet or which involves using the product in combination with any other product or any
is the responsibility of the user.

"MATERIAL SAFETY DATA SHEET 3"
ANSWER KEY

1) This material is 3M Duplicator Fountain Concentrate.

2) There are 5 ingredients (6 if you count the buffer).

3) The main ingredient by volume is water.

4) The smallest ingredient by volume is inorganic acid and buffer.

5) The EPA classification is nonhazardous.

6) If this material spills you wash down the area with water.

7) If this material is inhaled excessively central nervous system depression and mild eye and respiratory irritation can result.

8) If this material is swallowed it can be harmful or fatal.

9) Precautions are as follows: Avoid eye and skin contact. Do not take internally. Keep out of reach of children. Wash hands after use. Avoid breathing vapors.

10) You would dispose of this material with commercial incineration, reclamation, or in accordance with local and current EPA regulations.

"MATERIAL SAFETY DATA SHEET VOCABULARY 3"

COMPETENCIES

R-4 Identifies key vocabulary, definitions
W-2 Uses appropriate vocabulary
W-4 Summarizes information

ACTIVITIES

A) Use context clues, a dictionary, thesaurus, or the Pocket Pal to write definitions for the vocabulary words below.

B) Use the vocabulary words below in sentences.

C) Use the vocabulary words below to write a brief summary of the information on the following Material Safety Data Sheet.

VOCABULARY

Ph
glycerol
oxidizer
reclamation

"LIFE INSURANCE"

COMPETENCIES

W-1 Uses complete sentences, standard English grammar

ACTIVITY

A) Read the following information dealing with employee life insurance. Put a period at the end of each sentence and begin the next sentence with a capital letter.

SENTENCES

1) Consider carefully the options available to you only you can decide the best level of coverage.

2) In the event of your death, the amount of life insurance shown will be paid to your beneficiary you may change your beneficiary at any time.

3) If you become disabled while working, your premium payments will continue your life insurance will remain intact.

4) Benefits are payable for covered medical expenses the total lifetime benefit is $1,000,000.

5) The amounts paid are determined on a reasonable and customary fee basis reasonable and customary fees are those charged by a provider for a service.

"SEXUAL HARASSMENT POLICY"

COMPETENCIES

R-2 Skims, scans to locate information
R-3 Identifies main idea
W-4 Summarizes information

ACTIVITY

A) You believe you have been the victim of sexual harassment. Read the following page from the Crabcake Press Employee Handbook. Write a brief definition of sexual harassment according to Crabcake Press. Write a sentence describing what you should do about sexual harassment.

"SEXUAL HARASSMENT POLICY VOCABULARY"

COMPETENCIES

R-4 Identifies key vocabulary, definitions
W-2 Uses appropriate vocabulary
W-8 Writes reports

ACTIVITIES

A) Use context clues, a dictionary, or thesaurus to write definitions for the vocabulary words below.

B) Use the vocabulary words below in sentences.

C) Use the vocabulary words below to write a memo to the Director of Personnel describing your situation.

VOCABULARY

commitment
specifically
gestures
termination of employment

discrimination
forbidden
derogatory

harassment
unsolicited
sanctions

SEXUAL HARASSMENT

In keeping with the Company's commitment to provide a workplace free of discrimination, the Crabcake Press expects all employees to perform their work in a business-like manner, with a concern for the well-being of their co-workers. Any harassment of employees by fellow employees or supervisors, is not permitted.

Specifically forbidden is harassment of a sexual, racial, ethnic or religious nature. Such harassment includes unsolicited remarks, gestures, or physical contact; display or circulation of written materials or pictures derogatory to either gender, or to racial, ethnic or religious groups; or basing personnel decisions on a employee's response to sexually oriented requests. Any employee who experiences conduct of this sort should bring it to the attention of his/her supervisor or an officer of the Company, immediately!

Any employee found, after thorough investigation to have engaged in sexual or other harassment will be subject to appropriate sanctions, depending on the circumstances, from a warning, up to and including termination of employment.

EFFECTIVE COMMUNICATION IN THE WORK GROUP

Increasingly employees in all sectors of the economy are finding that the ability to function as a productive member of a work team is critical for success. Workplace trends indicate a change from the more traditional "top down" communication to increased communication among workers at all levels of a company. The delivery of high quality products and services requires effective group processes. Those skilled in communication can greatly impact productivity, quality, morale, and their own job satisfaction.

"MAINTENANCE SCHEDULE"

COMPETENCIES

R-6 Draws accurate conclusions
W-11 Incorporates information into new formats

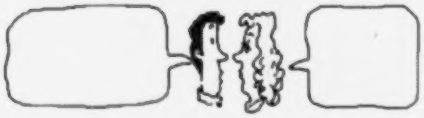
ACTIVITY

A) Use the information on the following page about maintenance requirements in the Bindery Department to develop an annual chart for required maintenance over first and second shifts.

BINDERY DEPARTMENT

- First shift requires one-half hour every other week on Harris binding and trimming equipment.
- First shift requires two hours every week on Muller binder and trimmer.
- First shift requires two hours every week on Muller binder and trimmer.
- Second shift requires one hour each week of open time with no work on the Harris binder.
- Second shift requires eight consecutive hours bi-monthly. Overtime should get scheduled if eight hours is not available.
- Harris and Muller require eight hours every six months on the glue basin. Hours could be split between shifts.
- Harris requires eight hours annually for cleaning kettle and changing oil in all gear boxes.

All scheduled maintenance should be performed within two weeks of scheduled date, no exceptions.



"USING EMPHASIS FOR EFFECTIVENESS"

COMPETENCIES

L-1	Paraphrases messages
L-5	Identifies factors influencing speaker
L-6	Identifies speaker's expectations
L-7	Draws accurate conclusions
S-9	Expresses factual information effectively
S-10	Expresses feeling, opinions effectively

ACTIVITIES

A) Repeat the following sentences several times, each time stressing a different word. Discuss how the stress and tone of voice affect the meaning.

B) Record several different communication purposes which can be served by each sentence. Choose different words to stress in order to convey the message more effectively.

SENTENCES

1) We told him he could ride to work with us.
2) I didn't say she took my wallet.
3) This job has several errors.
4) The customer was very pleased with this job.
5) I didn't get a chance for overtime.
6) I always get stuck with overtime.
7) Our production quota on this press has not been met.
8) We exceeded out production quota this month.
9) Our work group needs more training.
10) That press usually has more press helpers.

"LEAVE OF ABSENCE"

COMPETENCIES

S-8 Interprets, explains information
R-2 Skims, scans to locate information
R-6 Draws accurate conclusions
W-9 Writes business correspondence

ACTIVITY

A) You have a worker from your crew who has taken a four month medical leave of absence. She has called you to tell you she is ready to return to work. You are not sure that her position will be available when she returns. Refer to the following page from the company handbook. Explain the rules to her and write a letter to her for your records to summarize the conversation.

Return to Work

It is the company's intent to reinstate an employee returning from disability or personal leave of absence to the position he or she held prior to the leave.

Providing business conditions permit, an employee returning from medical leave within 12 weeks will be reinstated to the position held prior to the leave. After 12 weeks, and prior to six months of medical leave, the company will make every attempt to place a returning employee in an appropriate position similar to the one held prior to the leave, provided the employee meets the required qualifications.

An employee whose medical leave extends beyond six months may return on the basis of business conditions, such as company performance and availability of positions. Such an employee may apply for future position openings and will be considered for these openings on the basis of qualifications and previous work history.

There is no assurance of employment for employees returning from disability or personal leave of absence in excess of six months.

Open Door Policy

[illegible] is strongly committed to following an Open Door Policy to permit employees to seek information, guidance, or advice from members of management on any condition which may cause you concern. The company urges you to use this practice when necessary and assures you that your standing with the company will not be affected in any way.

The company recognizes that in any work situation, complaints or work-related prob-

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"WORK DAY PRIORITIES"

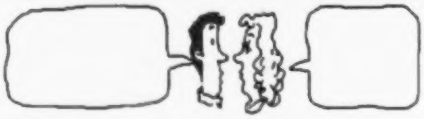
COMPETENCIES

S-8	Gives clear directions in sequence
W-4	Summarizes information
W-6	Prioritizes information
W-10	Writes clear, sequential directions

ACTIVITIES

A) List your typical daily job responsibilities. Decide what information the person on the next shift, or someone replacing you the next day, would need to know.

B) Prioritize and organize this information to communicate clearly and succinctly to a co-worker who will be continuing the job. Prepare to leave written and oral directions.



"MOTOR VEHICLE SAFETY RULE"

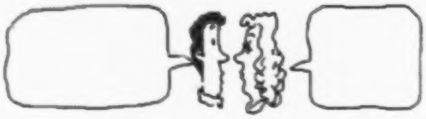
COMPETENCIES

R-1 Previews written material
R-6 Draws accurate conclusions
W-11 Incorporates information into new formats

ACTIVITIES

A) Preview the article, "Opposing OSHA's Motor Vehicle Safety Rule," to find the section on employee training. Read this carefully. Assuming that this rule is in effect, discuss how this will impact Crabcake Press and your work group.

B) Write a memo to the drivers in your group explaining how this will affect them.



"MOTOR VEHICLE SAFETY VOCABULARY"

COMPETENCIES

R-2 Skims, scans to locate information
R-4 Identifies key vocabulary, definitions
W-2 Uses appropriate vocabulary
W-5 Summarizes information

ACTIVITIES

A) Skim the article, "Opposing OSHA's Motor Vehicle Safety Rule." Underline unfamiliar vocabulary. Determine the meaning using context clues. Verify the meaning using a dictionary.

B) Use the following words in sentences and then in a paragraph explaining the ruling to members of your work group.

mandatory
controversial
techniques
hazard
crux
triennial
initially
imposing
skepticism

February 1992

PUBLIC AFFAIRS

ADVISORY PRINTING INDUSTRIES OF AMERICA, INC.

Opposing OSHA's Motor Vehicle Safety Rule

THE PRINTING industry now has the attention of Congress, the White House, and the Occupational Safety and Health Administration (OSHA) about problems associated with the Motor Vehicle Safety Rule proposed by OSHA in the fall of 1990. PIA is the *only* industry group that has actively campaigned against the motor vehicle rule. The rule would require that all employers conduct driver training for all workers who drive, as well as establish corporate policies requiring seat belt use.

PIA launched a grassroots campaign against adoption of the motor vehicle safety proposal in the fall of 1991. By the beginning of 1992, the Government Affairs Department had received 363 copies of letters from printers sent to Congress and the White House.

The Facts

Statistics show that motor vehicle accidents represent the greatest occupational hazard. According to National Safety Council estimates for 1990, motor vehicle accidents accounted for one third of all occupational fatalities.

Motor vehicle accidents also represent a large number of nonwork-related deaths and injuries. Of the 46,300 accidental motor vehicle deaths in 1990, the National Safety Council estimated that 42,700 were due to nonwork related motor vehicle accidents, while 3,600 deaths resulted from motor vehicle accidents at work.

The Proposed Rule

Motor vehicle safety can definitely be improved. But should employers be made responsible for improving the statistics? That's what the new rule proposes.

The new motor vehicle safety rule would require all employers to direct employees to wear seat belts for all work-related driving, as well as provide motor vehicle safety training for workers who operate vehicles on the job. The seat belt provision is not objectionable except for its coverage of forklifts. Several studies have shown that forklift operators wearing seat belts experience a greater risk of head injury in a roll-over than those who do not wear them. Thus, the seat belt provision for forklifts could create more of a safety hazard for the operator.

The safety training courses are the crux of PIA's objection to the rule. The proposed rule states:

"Employers shall develop and implement a driver safety awareness program that provides for training in safe vehicle use for each employee who ... might be expected to use a particular class of motor vehicle as a part of that employee's official work assignment. Training shall include as a minimum, topics addressing vehicle familiarization, including the use of vehicle safety systems, the use of safety belts, the use of motorcycle helmets, and the effects of alcohol and other drugs on driver performance. The employer shall provide triennial employee driver refresher training to each employee."

Under the provisions of the rule, all employees who use a motor vehicle while on company time must be properly trained before they initially enter the vehicle and must receive refresher training every three years thereafter. Originally, the rule applied to all employees driving all vehicles, from truck drivers to sales representatives. OSHA is considering a change to the rule so that it will cover only those workers driving vehicles different from their own automobile, such as forklifts, tractors, or delivery vehicles.

Industry Activity

The more than 350 letters that printers have sent to Congress and the White House have generated concern over the rule among elected officials. The results clearly demonstrate that individuals can affect public policy when they act in an organized, coordinated effort.

The letters that PIA members have received from Congressional representatives are evidence that the voter may be the first to inform an elected official of a serious issue. A liberal Member of the House wrote to one printer, "I agree with you that there is no good reason to be imposing additional burdens on business at this time. I will be expressing my skepticism in this regard to OSHA, and I would not have done so had you not taken the time to bring it to my attention." Even some traditional opponents of business in Congress see that the rule is ill-advised.

Because of the number of letters that OSHA began receiving from Capitol Hill on the issue, the agency organized a Congressional forum on the rule so that Members of Congress and their staff could discuss the specific provisions of the rule. Later, OSHA invited PIA to meet with OSHA Administrator Jerry Scannell and other OSHA officials in an attempt to win the industry's support for the rule.

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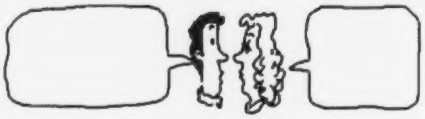


"SPECIFIC QUESTIONS"

COMPETENCIES

S-5 **Paraphrases, summarizes information in logical order**
S-6 **Questions to clarify, obtain information**

ACTIVITIES

A) **Often to follow procedures accurately you must ask specific questions to clarify information. Brainstorm ways to make the question words "who," " what," " where," " when," " how," and "why" specific to information you must know to do your job.**

B) **Explain one aspect of your job to someone from another department. The listener must ask appropriate, specific questions. Notice that specific questions may eliminate the need for further lengthy explanations.**

"OVERCOMING COMMUNICATION ROADBLOCKS"

COMPETENCIES

W-11 Incorporates information into new formats

ACTIVITY

A) Brainstorm remarks in the following categories which hinder or block communication. Then brainstorm remarks which show active listening and respect. Draw up a list of guidelines for avoiding or defusing conflict situations.

Directing or Commanding:

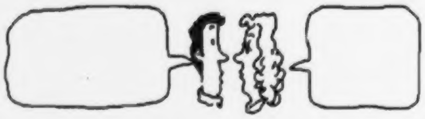
Judging or Criticizing:

Warning or Threatening:

Lecturing:

Advising:

Ridiculing:



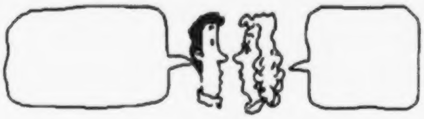
"INTERPRETING NON-VERBAL CLUES"

COMPETENCIES

L-7	Draws accurate conclusions
W-3	Takes notes
W-4	Summarizes information

ACTIVITY

A) Explain to a partner an incident which made you angry (happy, sad, upset, or worried). Your partner will observe and list the non-verbal clues to your emotion. Discuss whether the verbal or non-verbal information was easier to interpret. Were any contradictions observed?



"EMPLOYMENT OF RELATIVES"

COMPETENCIES

R-3 Identifies main idea
W-4 Summarizes information

ACTIVITY

A) You are a friend of two employees who have told you of their plans to get married. However, they are concerned about the company rules regarding the employment of family members. You notice that there is a section regarding this in the Employee Handbook. Read the appropriate section of the Employee Handbook and write a note to your friends summarizing the company policy.

To apply for a posted opening, simply write a note to your supervisor expressing your interest in the position. Your supervisor, in turn, will send the note to Human Resources, who will arrange for an interview with you.

To be eligible for consideration, you must have been in your current job for a period of one year or more, be in good standing, and have a current performance appraisal on file which is good or better.

Employment of Relatives and Friends

[illegible] will consider applications for employment from relatives and friends of present employees. However, as an equal opportunity employer, the company will recruit, hire, train, promote, and transfer on the basis of qualifications. Under no circumstances will relatives or friends be given special or preferential treatment.

In order to avoid any possible conflict and/or raise the issue of preferential treatment, these guidelines will be followed:

- Individuals cannot directly supervise or be directly supervised by a close family member (defined as spouse, child, parent, parent-in-law, brother, sister, or other household members such as stepbrother, stepsister and/or close personal friends).
- If two individuals reporting to the same supervisor marry, one of those individuals should make every effort to find suitable employment elsewhere in the company. If no suitable employment is found, the company may request that one of the individuals seek employment outside of the company.

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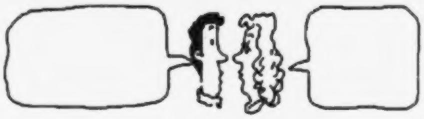


"MESSAGE CENTER"

COMPETENCIES

W-1 Uses standard English grammar, syntax

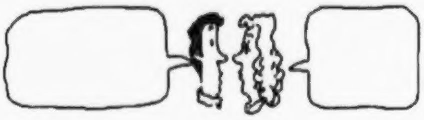
ACTIVITY

A) You have received the following memo from someone at Crabcake Press. Because the period on the printer did not work, the memo was printed as one long sentence. Place a period after each sentence and capitalize the word starting the next sentence. There are four sentences in the first paragraph and five sentences in the second paragraph.

MESSAGES

Messages will be taken by the receptionist when you are not at your work area or cannot be located by beeper the receptionist will use his/her judgment as to important calls if the caller identifies the call as important and the caller must locate you the receptionist will make every effort to do so however, if the call is not identified as important or an emergency the receptionist will take a message

Messages will be kept in duplicate one copy will be placed in the message center the other copy will remain in a book kept at the receptionist's desk if you are out of the building and call in for messages the receptionist will mark the message received and will place it in the message center for you to pick up later any messages left at the end of the day will be placed in the individual's mail slot



"AWARDS BANQUET"

COMPETENCIES

R-5 Interprets charts, graphs, tables
W-1 Uses standard English grammar, syntax
W-4 Summarizes information

ACTIVITY

A) Crabcake Press has completed a survey of employees to determine their wishes concerning an awards banquet. You are on the committee to plan the awards banquet. Write a report summarizing the results of the following survey.

AWARDS BANQUET/ALTERNATE
139 RESPONSES

1. 33 Continue the awards banquet each year.

2. 58 Hold the awards banquet every other year. In the alternate year, sponsor a different type of event. Examples include a bull roast, a dinner cruise at the harbor, a bull pen party and Orioles game, a trip to Hershey park, an evening at the Aquarium, etc.

3. Distribute awards at a company meeting and do one of the following. (Check a, b, c, or d below.)

   a. 28 Sponsor a different type of event each year. (Examples are listed in the Option 2.)

   b. 4 Have a separate sit down dinner with band/D.J. similar to the banquet.

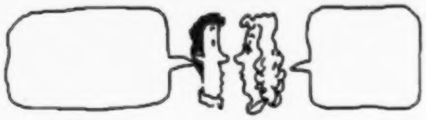
   c. 10 Hold an in-house cookout every month.

   d. 8 Organize a Las Vegas type of evening. Everyone attending would receive a set amount of play money, and supervisors will give out bonus play dollars based upon excellent work performance, ideas, etc. The dollars will be used to participate in the Las Vegas night games. At the end of the evening, whoever has play money remaining may participate in an auction of prizes. A buffet would also be available.

4. 12 Normally I would attend an event, but currently I am unhappy with my company and am not interested in any activity.

5. 2 I am not interested in attending any off-site event.

6. 7 No opinion. Hold whatever event the majority wants.



"EMPLOYEE COUNSELING"

COMPETENCIES

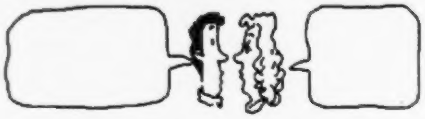
W-1 Uses complete sentences, standard English grammar

ACTIVITY

A) You have seen the following information on the bulletin board at Crabcake Press, but employees in your work group have questions about the information because it is not clearly written. Rewrite the paragraph. You will need to make some fragments complete sentences. You may want to rearrange the order of the sentences or add sentences of your own for clarity.

PARAGRAPH

We encourage every employee to take advantage of this opportunity. Is designed to provide help to employees. EAP offers counseling services for alcohol and drug abuse. Fees charged by outside referral agencies. Works closely with the employee to choose a counselor. EAP records do not become part of the individual's personnel file. All full-time employees may use the program. No cost to the employee. Appointments can be arranged outside of normal working hours. A twenty-four hour, seven day a week answering service.



"MATCHING YOUR COMMUNICATION STYLE TO YOUR WORK GROUP"

COMPETENCIES

L-7	Draws accurate conclusions
S-12	Discusses as part of a work group or team
W-4	Summarizes information
W-5	Categorizes information
W-6	Prioritizes information
W-11	Incorporates information into new formats

ACTIVITIES

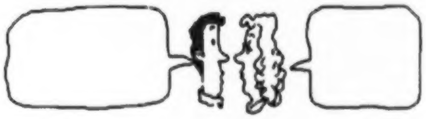
A) Brainstorm as many reasons for communication within your work group as you can. Such reasons might be to give or follow directions, to coordinate tasks, to solve problems, etc.

B) Made a chart for each reason or category. Fill in specific details under each category. For example, details under following directions might include reading a job jacket, reading a manual, or completing a daily production report.

C) Devise a time breakdown for each communication task you must complete on the job. You may use the number of hours or minutes in a day that you spend on each task or the number of hours that you spend on each task compared to the hours in your work week.

D) Prioritize the communication tasks on your list by their frequency or the number of hours which you must spend on them. Prioritize the tasks by how critical you feel they are to your job performance.

E) Check those items which you perform easily now. Star those areas in which you would like to improve. Consider your priorities based on time and the critical importance of each communication task to your successful job performance.



"MATCHING YOUR COMMUNICATION STYLE TO YOUR WORK GROUP"

F) Divide a piece of paper into four quadrants. Label them Listening, Speaking, Reading, Writing. Assign the communication tasks on your list to one or more of the four quadrants. In which area(s) do most of your communication tasks fall? With which area(s) and tasks are you most comfortable? least comfortable? Is there a pattern involved with those tasks you checked or starred in Activity D?

G) Share information gained in the above tasks with members of your work group. Are the same or different patterns noted among other members of your group? Do you have areas of strength which you can share with others in your work group? Do you think that any differences noted are due to the flow of the work or individual differences? Brainstorm ways in which your work group could communicate more effectively based on the information you have gained from the above exercises.

H) Compare and contrast your answers and the answers of your work group with those of groups from other departments. What similarities or differences did you note? Brainstorm and list ways in which improved communication in your work group will streamline communication between departments.

EFFECTIVE COMMUNICATION WITH SUPERVISORS

At first effective communication with supervisors can seem like a real challenge. However, learning how to communicate effectively with supervisors can pay off handsomely in rewards. Clearly defining work place tasks and marshalling the resources to achieve them depends on how well supervisors and employees can work together as a team. Improved communication in this area can result in improved morale, satisfaction, and commitment for the employee and improved productivity for the company.

"ANSWERING SUPERVISOR REQUESTS"

COMPETENCIES

S-9	Expresses factual information clearly
S-10	Expresses feelings, opinions effectively
S-12	Discusses as part of a work group or team
S-13	Makes appropriate suggestions, recommendations
S-14	Persuades others
S-15	Negotiates to resolve differences

ACTIVITIES

A) Read the following scenarios. Communicate your first reaction to the supervisor's request in each scenario.

B) Evaluate the effectiveness of your first reaction and communication. Brainstorm alternative reactions and ways to communicate.

C) Categorize each reaction and communication in A and B as emotional or factual. What are the possible results of each type of reaction? Which type of reaction or combinations of reactions are most effective?

SCENARIOS

1) You work in the front office of Crabcake Press. In a span of twenty minutes the president, vice-president, and CEO hand you rush jobs which must be completed by 4:00 pm.

EFFECTIVE COMMUNICATION WITH SUPERVISORS

"ANSWERING SUPERVISOR REQUESTS"

COMPETENCIES

S-9	Expresses factual information clearly
S-10	Expresses feelings, opinions effectively
S-12	Discusses as part of a work group or team
S-13	Makes appropriate suggestions, recommendations
S-14	Persuades others
S-15	Negotiates to resolve differences

ACTIVITIES

A) Read the following scenarios. Communicate your first reaction to the supervisor's request in each scenario.

B) Evaluate the effectiveness of your first reaction and communication. Brainstorm alternative reactions and ways to communicate.

C) Categorize each reaction and communication in A and B as emotional or factual. What are the possible results of each type of reaction? Which type of reaction or combinations of reactions are most effective?

SCENARIOS

2) You have set up a very complicated press run and work has been underway for about an hour. Your foreman comes in and tells you that the salesperson just got off the phone with the customer, and there are major changes in the job. After looking at the changes you feel you may not be able to meet the previously agreed upon deadline.

3) You have joined a neighborhood softball team, and you are very excited about it. Your supervisor informs you that your shift will be changed. The new shift assignment conflicts with the softball games.

4) Your supervisor has asked you to organize the company picnic.

5) Your supervisor has asked you to represent your work group on a special ongoing committee to deal with issues of quality control.

"DAILY RELEASE REPORT"

COMPETENCIES

R-2 Skims, scans to locate information
W-4 Summarizes information

ACTIVITY

A) Read the memo below. Scan the Daily Release Report to find the information. Write a memo in response.

TO: Press Supervisor

FROM: Plant Manager

SUBJECT: Daily Release Report for 12/11

Please check the above mentioned report for 12/11. I need to know how many jobs there were of more than 600 copies. Of these jobs, please check to see how many had less than 200 pages. I need this information by noon today.

"USING EMPHASIS FOR EFFECTIVENESS"

COMPETENCIES

L-1	Paraphrases messages
L-5	Identifies factors influencing speaker's frame of reference
L-6	Identifies speaker's expectations
L-7	Draws accurate conclusions
S-9	Expresses factual information effectively
S-10	Expresses feeling, opinions effectively

ACTIVITIES

A) Repeat the following sentences several times, each time stressing a different word. Discuss how the stress and tone of voice affect the meaning.

B) Record several different communication purposes which can be served by each sentence. Choose different words to stress in order to convey the message more effectively.

SENTENCES

1) I have a degree and ten years experience in the printing business.

2) The job jacket didn't say the job had to be done tomorrow morning.

3) I didn't know the customer changed the specifications.

4) We need extra men on the shift today.

5) The workers are concerned about mandatory overtime.

6) The workers didn't expect the shift changes.

7) Everyone appreciated the company picnic.

8) My evaluations have always been acceptable.

9) My evaluations have always been superior.

10) I am improving my production quota.

EFFECTIVE COMMUNICATION WITH SUPERVISORS

"MATCHING YOUR COMMUNICATION STYLE TO YOUR SUPERVISOR(S)"

COMPETENCIES

L-7	Draws accurate conclusions
S-12	Discusses as part of a work group or team
W-4	Summarizes information
W-5	Categorizes information
W-6	Prioritizes information
W-11	Incorporates information into new formats

ACTIVITIES

A) Brainstorm as many reasons for communication with your supervisor(s) as you can. Such reasons might be to report work progress or problems, to suggest ideas for improvement, etc.

B) Made a chart for each reason or category. Fill in specific details under each category. For example, details under reporting work progress might be the use of production reports, a discussion of production quotas, etc.

C) Devise a time breakdown for each communication task you must complete on the job. You may use the number of hours or minutes in a day that you spend on each task or the number of hours that you spend on each task compared to the hours in your work week. Are you spending too much, too little, or just the right amount of time communicating with your supervisor(s)?

D) Prioritize the communication tasks on your list by their frequency or the number of hours which you must spend on them. Prioritize the tasks by how critical you feel they are to your job performance.

E) Check those items which you perform easily now. Star those areas in which you would like to improve. Consider your priorities based on time and the critical importance of each communication task to your successful job performance.

"MATCHING YOUR COMMUNICATION STYLE TO YOUR SUPERVISOR(S)"

F) Divide a piece of paper into four quadrants. Label them Listening, Speaking, Reading, Writing. Assign the communication tasks on your list to one or more of the four quadrants. In which area(s) do most of your communication tasks fall? With which area(s) and tasks are you most comfortable? least comfortable? Is there a pattern involved with those tasks you checked or starred in Activity D?

G) Share information gained in the above tasks with members of your work group. Are the same or different patterns noted among other members of your group? Do you have areas of strength which you can share with others in your work group?

H) Compare and contrast your answers and the answers of your work group with those of groups from other departments. What similarities or differences did you note? Brainstorm and list ways in which improved communication with supervisor(s) could improve your job performance, job options, and benefit the company as a whole.

EFFECTIVE COMMUNICATION WITH CUSTOMERS

Today we know the leading competitive edge for any company is customer service. You may think that this doesn't affect you if you do not directly deal with customers. However, your communications skills directly affect the quality of the work you produce and the overall image of your company. No matter what your position in the company, communication skills for customer service are vital.

#1

"MANUSCRIPT CHANGES"

COMPETENCIES

W-9 Writes business correspondence

ACTIVITY

A) Using the information below, write a letter to the customer informing him that the changes he requested will delay the final delivery date.

Your customer, Steve Billingsly, sent you last minute changes to a manuscript that was scheduled to be printed on June 3 and to be delivered June 8. Write a letter informing him that the changes he requested will set the delivery date back to June 21. Use your company's address for the heading. Use the following information:

Mr. Steve Billingsly, President
The Accountant's Tax Network
1507 Reisterstown Road
Baltimore, MD 21215

Book Title: Tax Law Changes for 1994
Account No.: 4509-32

#1

"DIRECTIONS TO THE WORKPLACE"

COMPETENCIES

W-1 Uses complete sentences, standard English grammar
W-10 Writes clear, sequential directions

ACTIVITY

A) Write directions to your work station for an important client who has never been to your company. He is driving from the airport and needs very specific directions.

"INVOICE ADJUSTMENTS"

COMPETENCIES

W-9 Writes business correspondence

ACTIVITY

A) Corrections have been made to the following customer invoices. Write a letter to each customer to accompany adjusted invoices.

10/04/91

Date

ORIGINAL INVOICE

A DIVISION OF

BALTIMORE, MARYLAND, U.S.A. 21202

Publishers in Medicine and Science

THIS IS YOUR BILL

501	01	01	05002	31434
Invoice No.	C.A.	C.R.	A/C	Order Number

137501	724	31434
Invoice No.	Loc.	Order Number

SOLD TO

QUA6RUP55337
[redacted]
BURNSVILLE MN 55337-1295

SHIP TO

QUA6RUP55337
[redacted]
BURNSVILLE MN 55337-1295

Imp.	Quantity	List Price	Discount	Net Price	Author and Title	ISBN	Line Amount
	1	39.95	20%	~~39.95~~ 31.96	NIEBYL DRUG USE PREGN 11192	11339-9	~~39.95~~ 31.96
	4	33.50	[illegible]	~~33.50~~ 26.80	STOKLOSA PHARMACE CAL 9 13845	11744-0	~~134.00~~ 107.20
OP	1	08/07/91			FASSETT COMP APPL PHARM 10196	10545-0	
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12/11/91- Corrections prev. made on 11/13 - per Ann K (attached info)

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AMOUNT DUE*	~~182.58~~

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INVOICE NUMBER 13750

*TERMS: NET 30 DAYS, LATE PAYMENT SUBJECT TO COLLECTION CHARGE

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256306
INVOICE NO.

98914
A/C

ORDER NUMBER

256306 | 01 | 07 | 98914 | | 6 736
Invoice No. | C.S. | C.M. | A/C | Order Number | Loc.

SHIP TO
KNI2BRI43545
NAPOLEON OH 43545

GST # 123394371

3339-70420

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KNI2BRI43545
NAPOLEON OH 43545

RETURN PROCEDURES
SEE REVERSE SIDE

THIS IS YOUR BILL
REMIT(IN U.S.$) TO: P.O. BOX 64262
BALTIMORE,MARYLAND, U.S.A. 21264
PLEASE DETACH BOTTOM PORTION AND RETURN WITH PAYMENT

Reference 25NOV91

Leg.	Quantity	List Price	Discount	Net Price	Author and Title	Product	Amount
	1	55.00		55.00	APPELBAUM CLIN HDBKPSY & LAWS	00237-6	55.00
	~~1~~	~~30.00~~		~~30.00~~	~~CIRAULO DRUG INTERACTIONS~~	[illegible]	[illegible]
	1	30.00		30.00	DEVANE PSYCHOACTIVE DRUG THER	02452-3	30.00
					30 DAYS APPROVAL		

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SUB - TOTAL	115.00
SHIPPING & HANDLING	6.90
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AMOUNT DUE*	121.90

*TERMS: NET 30 DAYS.
LATE PAYMENT SUBJECT TO COLLECTION CHARGE

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- NO - Not Our Publication
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- OP - Out of Print
- OS - Out of Stock (Date Given)

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SPECIAL 4TH CLASS BOOK RATE
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INVOICE NUMBER
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AMOUNT DUE
$ 121.90

For Address Change Check Here And See Reverse Side

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To Insure Proper Credit, Please Return This Portion With Your Remittance

WILLIAMS & WILKINS SALES INC.
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Authorizing Signature

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#1

"SPECIAL CUSTOMER REQUEST"

COMPETENCIES

L-5	**Identifies factors influencing speaker's frame of reference**
L-6	**Identifies speaker's expectations**
S-4	**Validates message, acknowledges importance of information**
S-7	**Interprets, explains information**
S-15	**Negotiates to resolve differences**
W-9	**Writes business correspondence**

ACTIVITY

A) **Rehearse a conversation to answer this customer request.**
Write a letter to the customer to summarize the conversation.

Your customer, Sheila Jasket, wants to personally package 300 of the first copies from the binder on the thirty-first of this month in prelabeled envelopes which she will provide. She would like a table in the bindery to use. Consider company policies, safety rules, and precedents as you answer this customer request.

#1

"ENHANCING A CUSTOMER SERVICE MESSAGE"

COMPETENCIES

W-2 Uses appropriate vocabulary
W-11 Incorporates information into new formats

ACTIVITIES

A) Good vocabulary choices can strengthen one's message. Use a dictionary to determine the meaning of unfamiliar words. Then underline the word in each row which you feel has the most impact.

B) Use the underlined words in a sample promotional flyer to persuade customers to choose Crabcake Press for all their printing needs.

C) Use a thesaurus to find additional synonyms and brainstorm your own additional vocabulary words.

orientation	tendency	commitment	persuasion
efficient	effective	adequate	customary
timely	prompt	rapid	hurried
progressive	current	up to date	state of the art
friendly	courteous	pleasant	helpful
satisfaction	guarantee	promise	
expert	knowledgeable		

#1

"EMPHASIS ON CUSTOMER SERVICE"

COMPETENCIES

L-1	Paraphrases messages
L-5	Identifies factors influencing speaker
L-6	Identifies speaker's expectations
L-7	Draws accurate conclusions
S-9	Expresses factual information effectively
S-10	Expresses feeling, opinions effectively

ACTIVITIES

A) Repeat the following sentences several times, each time stressing a different word. Discuss how the stress and tone of voice affect the meaning.

B) Record several different communication purposes which can be served by each sentence. Choose different words to stress in order to convey the message more effectively.

SENTENCES

1) We can get the job done for you today.

2) We have excelled in the printing business for twenty years.

3) We can do another printing of that job for you.

4) We have the specifications on file.

5) We will get back to you.

6) What changes would you like to make to your document?

7) You have our assurance of quality.

8) Our state of the art machinery enables us to add many unique features.

#1

"POLICY CHANGES"

COMPETENCIES

S-1	Uses standard English grammar, syntax
S-2	Uses appropriate vocabulary
S-3	Uses conventions of courtesy
S-5	Paraphrases, summarizes information in logical order
S-7	Interprets, explains information
W-9	Writes business correspondence

ACTIVITY

A) Read the following scenarios. Rehearse possible phone conversations explaining changes in company policy to long-term customers.

B) Write letters to long-term customers explaining changes in company policy.

SCENARIOS

1) Crabcake Press has had to raise it prices by three percent.

2) Many sophisticated printing jobs will now have to be submitted on disk.

3) Crabcake Press will now have a branch in Ohio where preliminary work on some jobs may be sent.

4) Crabcake Press is going from two to three shifts in order to serve customers better.

5) The owner and president of Crabcake Press will be semi-retired and the vice-president will have additional responsibilities at Crabcake Press.

"MATCHING YOUR COMMUNICATION STYLE TO YOUR CUSTOMERS"

COMPETENCIES

L-7	Draws accurate conclusions
S-12	Discusses as part of a work group or team
W-4	Summarizes information
W-5	Categorizes information
W-6	Prioritizes information
W-11	Incorporates information into new formats

ACTIVITIES

A) Brainstorm as many reasons for communication with your customers as you can. Such reasons might be to give information on a new service, to solve problems, etc.

B) Make a chart for each reason or category. Fill in specific details under each category. For example, details under informing customers of a new product might be phone calls, fliers, or business letters.

C) Devise a time breakdown for each communication task you must complete on the job. You may use the number of hours or minutes in a day that you spend on each task or the number of hours that you spend on each task compared to the hours in your work week.

D) Prioritize the communication tasks on your list by their frequency or the number of hours which you must spend on them. Prioritize the tasks by how critical you feel they are to your job performance.

E) Check those items which you perform easily now. Star those areas in which you would like to improve. Consider your priorities based on time and the critical importance of each communication task to your successful job performance.

"MATCHING YOUR COMMUNICATION STYLE TO YOUR WORK GROUP"

F) Divide a piece of paper into four quadrants. Label them Listening, Speaking, Reading, Writing. Assign the communication tasks on your list to one or more of the four quadrants. In which area(s) do most of your communication tasks fall? With which area(s) and tasks are you most comfortable? least comfortable? Is there a pattern involved with those tasks you checked or starred in Activity D?

G) Share information gained in the above tasks with members of your work group. Are the same or different patterns noted among other members of your group? Do you have areas of strength which you can share with others in your work group? Do you think that any differences noted are due to the flow of the work or individual differences? Brainstorm ways in which your work group could communicate more effectively based on the information you have gained from the above exercises.

H) Compare and contrast your answers and the answers of your work group with those of groups from other departments. What similarities or differences did you note? Brainstorm and list ways in which improved communication with customers can help your department, other departments, and the company as a whole.